

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

LONDON, SATURDAY, APRIL 13, 1861.

{ STAMPED.....SIXPENCE.
{ UNSTAMPED. FIVEPENCE

Original Correspondence.

UTILISATION OF BLAST-FURNACE GASES.

SIR,—The certainty that the heading of this article will attract considerable attention to the paper itself, makes me desirous to preface it with a word of explanation. The question is such a vexed one, and so much has been already said and written upon it, that, added to the difficulty and uncertainty of getting any reliable data to serve as base to subsequent calculations, it seems almost a hopeless task to attempt anything like a thorough ventilation of the subject. Still there are some deductions from the unerring laws of chemistry in which we risk nothing in placing confidence, so far as they go; and I now propose to briefly recall these considerations, stating clearly my premises, so that all may judge if the few conclusions I shall permit myself to draw from them seem to be accurate.

The chief objections urged against the utilisation of the gases which escape from the mouth of the blast-furnace may be classed under two heads—scientific and economic. Those of the first category being—1. That the abstraction of the combustible gases injures the working of the furnace, since they are at the same time reductive. 2. That the drawing of the furnace is disadvantageously modified by the contraction of the outlet furnished for the gases, and by the chimneys used to carry off the ultimate products of combustion. Under the second classification it is urged—1. That, in spite of all possible precautions, much danger is incurred from the likelihood of the combustible gases, which are also eminently explosive, to ignite in the apparatuses through which they are made to pass, thus causing considerable destruction of materials, doubly annoying since the explosion may occur at any unexpected moment, and when some derangement in the working of the furnace may require all the resources of the various appliances to be under unimpaired control. 2. That the supply of combustible from such a source is of too fluctuating a nature, since it depends upon circumstances which may undergo considerable variation. 3. That in many cases no real economy of fuel is effectuated, when the erection and maintenance of the different necessary installations are taken into consideration, and also the cost of the combustible that would otherwise be employed.

In the present state of practical knowledge as to the exact reactions which mineral, fuel, limestone, and gases exercise upon each other in the interior of a blast furnace, it is impossible to arrive at perfectly satisfactory conclusions, either *pro* or *con*, in regard to all these objections; but it will be at least interesting to investigate, so far as our actual information will permit us, the various changes which take place in the ascending column of gas, from its entrance at the tuyere to its exit at the mouth of the furnace. The transformations which the air introduced by the blast undergoes are twofold.—1. *Physical transformations*.—2. *Those attributable to chemical reactions*. The first of these are of little interest in the present case; however, to give completeness to the subject, it may be as well briefly to state them, as follows:—The air entering at one side of the furnace tends to reach the opposite side, following a straight line; but the momentum in virtue of which the intervening space should be cleared is gradually diminished by the resistance offered to it from the mass of matters it traverses. There will, therefore, be a point where this momentum is null; at the same time, the temperature of this air, and consequently its tendency to mount in a straight line, has been every moment increasing, and this rising tendency has been also favoured by the lessening horizontal velocity; so that, when the density is at its minimum, the momentum is at its minimum also, in virtue of the simultaneous diminutions of its weight and velocity, and the column of air rises in a straight line. These successive modifications transform the trajectory of a given atom from a straight line to a curve, more or less parabolic, according as the pressure on the air is less or more powerful. This explains practically why a large section of nozzle and feeble pressure do not answer, though the same quantity of air is introduced—the air tending to curve up too suddenly, and cling to the sides of the furnace, instead of penetrating the load.

So much for the physical transformations—at the same time important chemical reactions are taking place, which I will now recall to the recollection of my readers. The nature and details of these reactions are, unfortunately, somewhat uncertain, from the difficulties attending their investigation; however, there are a few general notions drawn from the principles of chemistry which may be admitted, though some degree of vagueness attends the fixation of the exact points at which the transformations take place, and the quantities of the different bodies produced. When a volume of air traverses a thin layer of fuel combustion is ordinarily complete—that is, its only products are carbonic acid and water; but when the air traverses a lofty column of combustible, as in a blast-furnace, the case is different. There is, first, an energetic combustion, the carbon of the fuel combining with the then unadulterated oxygen of the air, and the maximum of temperature is attained by the former being burnt to carbonic acid. The air which entered, composed essentially of oxygen and azote, or nitrogen, is thus transformed into carbonic acid, nitrogen, and water. This is its composition as it enters the sloping sides of the boshes. Here, or hereabouts, a second transformation takes place. The carbonic acid finds itself in the presence of a mass of combustible brought to a high temperature by the heat which itself communicates, and each volume of carbonic acid absorbs a volume of the vapour of carbon equal to that which it contains already, and gives two volumes of oxide of carbon. This transformation is accompanied by a sudden and considerable reduction of temperature, which is, however, in a great measure compensated by the radiation from the ore, which is already entering into fusion. But the gaseous column is not destined to long retain this composition, for coming in contact a little higher up with a mass of oxide of iron, at a dull red heat, the reductive power of the carbonic oxide causes a portion of it to absorb the oxygen of the iron, and carbonic acid is thus re-generated. An additional supply of this last-named gas is also furnished by the limestone, which in calcining disengages its carbonic acid. Thus we see that the air which entered the furnace composed of nitrogen and oxygen escapes in the shape of the first-named of these two elements, a mixture of oxide of carbon and carbonic acid, together with watery vapour, hydrogen, and different carburets of hydrogen, in variable quantities. So enormous is the proportion of the calorific power of the combustible that thus escapes in the gaseous form, that in the case of the Alfreton furnace it is calculated that but 14 per cent. of the heating power of the fuel charged is actually realised in the furnace itself, the balance escaping in the air, and that too in the most advantageous form—the gaseous. For this description of combustible possesses the property of immediately developing all the heat it is capable of producing. (An interesting example of this may be cited, *parenthetically*, in the instance of *straw*, or any other light combustible matter, in which, were it used as fuel, the calorific power would be too dispersed to serve scarcely any useful purpose. But if the same straw be carbonised, and its gaseous products collected, any amount of heating power might be accumulated for subsequent development at a given moment by burning a sufficient quantity of the material.) It is not surprising that when these facts were first proclaimed by scientific men enquiry should have been set on foot by the practitioners with a view to ascertain if this prodigious waste might not be cancelled by the ultimate utilisation of the calorific power thus thrown off; nor can we wonder, on the other hand, that when the order of the day seems to be the entire divorce of theory from practice, much misapprehension should exist as to the manner in which this saving might be most advantageously accomplished. For instance, it was at first proposed to withdraw the gases at or near the boshes, for the simple reason that the combustible gases are there formed in the greatest quantity. It was instantly perceived that as these gases were at the same time reductive, and as such necessary to the preparation of the ore, their abstraction at this point was impossible without impairing the general working of the furnace, and practical men jumped at the conclusion, that since the taking of the gases so low down involved certain disadvantages, it would not be advisable to take them at all, as the same disadvantages would probably attend their withdrawal at any higher point, with a difference only in the degree of the injurious effects produced. Let us examine this presumption a little closer, for its consideration may furnish us with an answer to the first objection on our list. Experiments made by Bunsen, Playfair, and Eöbelen demonstrate that there is a point at which the increasing production of carbonic acid, and the diminishing proportions of oxide of carbon, are arrested, and that from this point to the mouth of the furnace their respective quantities remain sensibly constant. Hence we may conclude that at this place the oxide of carbon has fulfilled its mission as a reductive agent, and its presence ceases to be essential to the working of the furnace. Now the determination of this point, as well as the points at which the successive transformations I have already mentioned take place, depend upon the accuracy of a series of analyses made upon furnace gases taken at different depths, by means of an iron tube plunged into the mass of matters charged, or rather which was carried down with the descending mass. Many causes

of inaccuracies might, and probably did, accompany these experiments—scaffolds, falls of the mine, might alter the normal composition of the zone through which at a given moment the tube passed, to say nothing of the possible want of homogeneity in the gases of a same zone. Still they furnish us with a series of valuable results upon which to base our calculations. From the analyses of Playfair and Bunsen of the gases of the Alfreton furnace the following deductions are made:—The maximum of oxygen calculated on a volume of nitrogen represented by 79.2 being found at a distance of 23 ft. from the mouth of the furnace, it is admitted that at this point the reduction of the ore and the disengagement of carbonic acid of the limestone take place, for this maximum equals a volume of 30.9, while had these operations been already effected the volume of oxygen for 79.2 of nitrogen would be 20.8, the proportion in which it exists in the atmospheric air.

At a depth of 24 ft. the protocarburet of hydrogen (C^2H^4) is still found in considerable quantities. The production of this gas in the blast furnace is admitted to be caused by the distillation of the coal; it is, therefore, concluded that the carbonisation of the coal is not complete until it reaches this depth. On the other hand, the nitrogen is at its minimum, and the protocarburet and bicarburet (C^4H^4) of hydrogen, and the hydrogen itself, are at their maxima, at a depth of 14 ft., whence it is allowed that at this depth the maximum of distillation takes place.

[To be continued in next week's Mining Journal.]

E. SHERMAN GOULD,
Elève de l'Ecole des Mines de St. Etienne.

MANUFACTURE OF IRON WITH ELECTRICITY.

SIR,—In the Journal of Feb. 9, you mentioned my electric iron-refining process. Thanking you for the celebrity you were pleased to attribute to myself, I feel it due to the general progress of applied science to give you a sketch of a few ideas concerning the manufacture of iron and steel. Perhaps they will find a better echo among your own more intelligent classes than here, where ignorance and greediness for immediate gain throw all kinds of obstacles in the way of inventors.

The influence of *Electricity* in the smelting operations of metals seems to me worthy of more special attention of those engaged in this important branch of manufacture than has heretofore been bestowed upon it. The successful experiments made some twelve years ago by your countryman, Mr. Arthur Wall, with voltaic or galvanic electricity (unfortunately connected with much trouble and expense) demonstrated sufficiently the great effects which the agency of a continuous electric current, passed through a melted mass of iron while in the state of cooling, is able to produce. The accumulation of impurities on the polar plate showed that the affinity of the iron to the impurities was transferred to the said plate. The application of the intensive induced current (produced by Bunsen's or Ritchie's improved induction apparatus), entirely unknown at the time of the issue of Mr. Wall's patent, has for the first time been attempted by Mr. Adams and myself. By it I was enabled to ascertain that while the unbroken quantitative current produced new chemical affinity, the broken induced intensive current, a rapid succession of sparks, mechanically and chemically disturbing the equilibrium of the whole mass in all its atoms, destroyed the tenacious force which kept the impurities so intimately united to the metal, and this without producing new appreciable chemical affinity.

The fibrosity of the iron itself is, in my own humble opinion, chiefly due to the presence of a peculiar nitrogen compound—very likely a cyanide, or, may be, even a direct combination of nitrogen with iron. The so-called "coming to nature" of the iron, the peculiar aggregation of globules, similar to curdled milk or a honeycomb, which takes place in the puddling-furnace at a certain degree of heat, is a very peculiar and highly interesting phenomenon. The iron of the puddler draws these globules into fibres in a similar way as the cellular wax of a honeycomb, at a certain temperature, could be drawn out into a fibrous consistency. I found, further, that when ammonia, or other salts and substances containing hydrogen and nitrogen, are introduced while the iron is in this state of fermentation, and under electric excitement, a large amount of impurities separate, and mostly leave the iron in the form of vapours—probably, as cyanides, hydrogen, or oxygen combinations. The salts are introduced into the iron by a peculiarly constructed hollow working tool, which brings the gases, forced out by their own expansive pressure in a thorough manner, in contact with the metallic porous iron mass. In one of our experiments 3000 lbs. of scrap cast-iron, 950 lbs. at a time, were smelted in a double puddling-furnace, without any addition of cinders or flux. The electricity was produced by Ritchie's improved induction apparatus, giving a spark of 12 inches in length, and the effect was such that from every part of the iron enclosure, the steam-boiler above, and all the iron connected with the metal within the puddling-furnace, an electric spark of 1 inch in length could be drawn by the knuckle of the hand. The result was a fine fibrous iron, which was, without re-heating, at once rolled into nail-plates, and cut into nails.

The present crisis is paralysing nearly all our manufacturing interests, and until a change for the better takes place I shall have to discontinue my further investigations.

I think that a combination of puddled iron and steel, properly prepared, would fully answer to the requirements of iron-clad vessels, as well as for the manufacture of cannons, guns, &c., combining the strength of the steel with the tenacity (and peculiar conductivity of heat) of the wrought-iron. As soon as the times get somewhat better, I shall continue my experiments, and keep you informed of their results. Not having made as yet any arrangements for the introduction of my various improvements in the manufacture of iron and steel in England, I would be pleased to enter into correspondence with such parties as wish to give me an opportunity to follow up my experiments, which, I hope, may result in the production of good malleable iron or steel (without further re-heating) *directly from the ore*, achieved by the principal agency of electricity, the great "soul of Nature."—*New York, March 21.*

A. L. FLEURY,

Practical Chemist.

IRON AND STEEL MANUFACTURE.

SIR,—In last week's Journal is inserted a very important article, entitled "New Theory on the Composition of Steel," resulting from some very elaborate experiments of M. Fremy, communicated to the French Academy of Sciences, in its sitting on March 11 last, which communication is said to have produced a "profound impression" on this body of learned men. M. Fremy's theory is this: "Steel is not, as generally admitted, a carburet of iron, but a nitro-carbide; in other terms, that iron becomes transformed into steel by its combining successively with a certain quantity of carbon and nitrogen." That M. Fremy may be an excellent chemist I will not doubt for a single moment, but cannot help being surprised that he should go so far out of the usual way of announcing a new discovery by the introduction of a new chemical term (i.e., "nitro-carbide"), when the well-known compound, cyanogen, and the substance named by Mr. Crace-Calvert cyanide of carbon, are almost identical in their composition, and quite so with respect to constituent elements, with his "nitro-carbide." This confounding of terms in describing a new discovery is highly reprehensible at all times, but particularly so when it proceeds from an eminently scientific person, for it has the appearance of an effort to mislead or confuse a reader or an audience at the commencement of an enquiry into almost any subject, but particularly one so difficult and important as the elementary constituents of steel.

The experiment—which has up to the present time been generally considered conclusive, of converting iron into steel by the insertion of small diamonds (supposed to be crystallised carbon) into a mass of soft iron, and exposing it to a sufficiently high temperature for some given time—does not appear a conclusive fact to M. Fremy; and he gives as his reasons for this conclusion that "other bodies than those on which it was intended to try the mutual action, were present"—i.e., the impurities of the melting-pot, the influence of the gases of the furnace penetrating the apparatus, the action of the nitrogen of the air, and the presence of different substances contained in the coal itself. This is assuming difficulties which, however, in the case in question had no existence; for in the "experiment" above referred to the diamonds were inserted in a hole drilled in the lump of iron, and hermetically enclosed therein.

We then come to a most astounding announcement. M. Fremy, by passing a current of ammoniacal gas upon iron, produced (at a certain temperature, but the degree of which is not mentioned) a nitrate of iron. (This, evidently, must be an error of translation from the French of the original paper.) The nitrogen, in combining with the iron, formed a nitrate of a grey colour, brittle, and containing as much as 40 per cent. of nitrogen: if this, also, be not an error of translation, it must be acknowledged that both the chemists and metallurgists on this side the English Channel are far behind the present age in comparison with their French neighbours, provided this 40 per cent. of nitrogen be a real and not an

assumed fact. M. Fremy then announces another extraordinary circumstance—viz., that when a piece of iron, at a red heat, was acted upon by a stream of coal gas, a very regular carburisation was obtained, and the metal converted into grey iron, very malleable, and to be compared, in every respect, to the finest brands of charcoal iron. There, however, appears some mistake with respect to this conclusion, for it is almost immediately afterwards stated that when iron is submitted to the action of ordinary gas, pig-iron is obtained. There is no data given by which this discrepancy may be rectified. The remaining remarks in this lecture or announcement of M. Fremy's theory are but repetitions of statements that nitrogen enters into the composition of steel; and this given as a new discovery, one that made a "profound impression" upon a large and influential body of French savans, although nearly all the facts embraced in the lecture in question have been well known to many chemists and metallurgists in this country many years ago, and several practical details of them carried out; for instance—1. Mr. Mackintosh, under a patent, I think, converted iron into steel more than 30 years ago, by inserting rods of iron into coal gas retorts during the process of gas making; 2. Mr. Christopher Binks's invention or discovery that cyanogen was an important ingredient in steel making, the first person, I believe, who theoretically mentioned the fact in this or any other country, and which, as you truly observe in a footnote to the account of M. Fremy's "new theory," was inserted in the *Mining Journal*; 3. The very old practice of case-hardening iron by the application of hoofs of horses and cows, old leather, and other animal matters, at high temperatures; and 4. The direct and immediate action of yellow prussiate of potash (cyanide of potassium and iron), in giving a steely surface to iron tools and implements.

These observations are by no means made in disparagement of M. Fremy's truly valuable labours in the science of steel-making, which open out many new and excellent ideas on that subject, and, doubtless, will be found in practice of great importance, not only in the manufacture of steel but of iron also; my only object being to soften down M. Fremy's too prominent claims to originality in the lecture upon his "new theory," and to point out the exceedingly trivial objections he adduces for disbelief in the fact of diamond converting, at a proper temperature, iron into steel.

I would make one more remark with respect to M. Fremy's "lecture" on the constituents of steel, because it touches a point upon which a large majority of modern analytical chemists appear to agree and metallurgists to differ—the apparently general presence of phosphoric combinations in iron ores on the one hand, and the deleterious effect of such combinations in the iron results in blast-furnaces, on the other. M. Fremy says, at the conclusion of the extract above referred to, "It is quite probable that there are certain bodies, having some analogy either to carbon or nitrogen, which may produce steel. Do we not already know that the crystallised pig-iron, which is harder than ordinary iron, and somewhat resembles steel, is principally obtained by the reduction of phosphoric minerals?" Here is, truly, a large field of scientific enquiry open to both chemists and metallurgists, for not only is phosphorus in strong analogy with carbon, but with sulphur also.—*Newport, Monmouthshire, April 8.*

S. B. ROGERS.

PUBLIC AND WILFUL WASTE IN THE IRON MANUFACTURE OF MONMOUTHSHIRE AND SOUTH WALES.

SIR,—From the present unfavourable position of the iron trade in this part of the United Kingdom, it may be imagined that the proprietors or general managers of the works referred to would avail themselves of every fair means at command to make the most and best use of their coal and iron ore, practically and theoretically; instead of which there is the most wanton waste of those materials—materials that can never again be made available for any beneficial purpose whatever, and, therefore, this waste or loss is, in a national point of view, highly reprehensible, and ought to be abated by legislative enactments, if personal interests be not of sufficient power for that purpose: for, with respect to coal especially, as there is no reproduction of it in this country (as Dr. Buckland very justly remarked), since no natural causes are now in operation to form other beds of it, whilst owing to the regular increase of our population, and the new purposes to which the steam-engine is continually applied, its consumption (now 75,000,000 tons annually) is advancing at a rapidly increasing ratio, it is of most portentous interest to a nation that has so large a portion of its inhabitants dependent for existence on machinery, kept in action by the use of coal, to economise this precious fuel. I cannot, therefore, conclude this interesting subject without making some remarks upon a practice which can only be viewed in the light of a national calamity.

This waste of valuable raw material at the iron-works here referred to (with some few exceptions) is glaringly manifest to every visitor of their several localities in the mountains of black slag, or cinder, cumbering the ground—a cinder which may truly be said to be in mourning for the sins of the several ironmasters here alluded to; parties who are loudly complaining of the present great depression in the trade, and yet at the same time waste hundreds of thousands of tons of both coal and iron ore, in defiance, as it were, of all advice or warning of the, it may be safely said, fatal consequences of such reckless proceedings. The exact amount of this waste cannot be fully ascertained, but the following are data towards arriving at an approximation sufficiently correct to show that the losses are not only very great, particularly at some of the large iron-works, but also very wilful. Some of the black cinder contains even more than 20 per cent. of iron, but on an average it may fairly be reckoned at 14 per cent., and for every ton of "white and sulphury pig-iron" made there is produced full 25 cwts. of this black cinder—hence in the production of every 1000 tons of this sulphury iron the amount of cinder would be 1250 tons, which at 14 per cent. of iron, would be a gross loss or waste of 175 tons of that material. Now, if we take 20 per cent. off this waste for unavoidable loss in an improved mode of working blast-furnaces, we have a nett waste of 150 tons of iron in the production of every 1000 tons of "white and sulphury pigs." Then, with respect to the waste of coal, not only in the blast furnace, but in working up these sulphury pigs in the mills and forges, it may be safely put at 3 tons for every ton of iron wasted in the smelting process—i.e., 175 tons of iron and 525 tons of coal, upon the production of 1000 tons of the pig-iron here referred to, a loss that may be entirely prevented by an "improved mode of working blast-furnaces," which has been repeatedly offered to the South Wales and Monmouthshire ironmasters, but who, from some unexplained reasons, have declined availing themselves of the same, and seem to wait the "decree of Providence," which, however, plainly and clearly assures them that in the case in question—and, indeed, in most other similar cases—if they will not help themselves they "deserve to go without."—*Newport, April 10.*

S. B. ROGERS.

THE CHEMISTRY OF THE FORMATION AND COMPOSITION OF STEEL.

SIR,—In last week's Journal is given under the head of "New Theory on the Composition of Steel" an extract from the report of current transactions of the French Academy of Sciences. The so-called "new theory" is in fact not new. On the contrary, all its essential points, its illustrations, its demonstrations, and even almost its very language, have long ago been fully anticipated; this complete anticipation appears in your own Journal so far back as 1857 (May 29 and June 5). I attribute no plagiarism to this French gentleman, M. Fremy, who at this long subsequent date claims this discovery as his own. It is but another instance in proof (if proof of so obvious a fact were called for) that the laws of matter and its actions are immutable; that he who seeks so to handle, for investigation, the phenomena of matter as to eliminate from them some law of action, and give to this law its true expression, may do this as well in Paris as in London. For such an issue or deduction there must be but one expression if it have been followed truly; in other words, this is but another evidence of the oneness both of the path and of the issue of scientific truth.

M. Fremy has investigated these peculiar actions and phenomena of nitrogen when brought into juxtaposition with carbon and iron, and has arrived at his deductions without being aware that the whole question had been so long previously discussed and exhausted up to at least the point he appears to have reached. There remains yet in relation to this deeply interesting problem enough to be done to stimulate the scientific rivalry of both French and English.

The following extracts from my paper read before the Society of Arts, on May 29, 1857, will show the error into which M. Fremy has fallen in conceiving himself to be the first to enunciate this theory:—

Let any experimentalist proceed in this manner to apply to heated iron the following special re-agents, and he will find:—1. That heated iron exposed to the action of pure carbon, and kept out of reach of contact with any other element, is not converted into steel. A small rod of the malleable iron packed in boxwood charcoal in the closed porcelain tube, and kept at a full red-heat for twelve hours, did not, after being tempered, show a hard steel surface, nor did it exhibit the play under high and different degrees of heat peculiar to real steel colours. It still remained malleable iron.—2. But that when atmospheric air is admitted to such an arrangement in such quantity only as still to keep the carbon in excess, then, in the first instance, the surface of the iron, and finally (if the time of contact be long enough) the whole of the iron, is converted into

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nation: first, I dined with a friend sometime since, when a stone of what the miner called a "black jack," sulphuret of zinc, was shown me, and a chemical assay from one of the supposed first men of the day, where he said it produced from 60 to 70 per cent of lead, when there was not a particle of lead in it; the assay was returned, and not paid for; I lead, don, I called on the party. I not being known, saw my own sample, and asked what it was; he could not tell me; he said he could not find out what it was. I have since sent it to another supposed eminent chemist a sample of waste mud from a mine. I have since sent it as calcined lead ore, and very rich: it was never calcined, and he returned me the assay were arrayed against each other, and their evidence was so at variance, that I judged very properly threw them all overboard. And well may you, Mr. Editor, say in your Journal that it is a disgrace to science. The last I shall name, though not least, was consulted, when he undertook to throw something into the water, that 1-100th part of a grain should be detected 40 miles off. After a fortnight's experiment, when he threw compelled to have recourse to common mud. The reader will have seen that these men were bent to true chemistry.

ment by Mr. C. B. Bennett, C.E., of Austinfriars, relative to a new machine, called a "Preparator," the joint invention, it is said, of Capts. M. Wasley and W. Smith, who have patented it. It is far from my wish to interfere with the invention of any man, but I think I shall be able to prove machine in question was not only invented, but at work in the Kenmare Mines as far back as 1853; and if you will kindly allow me space in your valuable Journal, I will give a short but true history of the origin and invention of the "cobbing" or "spalling machine."

In the year 1852 I engaged M. Wasley as underground agent and dresser in the Kenmare Mines, county Kerry; but finding the cost of spalling and cobbing so excessively high by hand labour, in comparison to the amount of work performed, I was *driven* to adopt some plan to reduce the cost. I spoke to several persons at the time on the subject of breaking the ore by machinery. Every person I consulted *had a plan of his own, but nobody could tell me what plan to adopt.* I was determined, however, not to introduce *something* to stop the cost; and at last I got one of the engineers, Edwin Bergan, to make a *model* of a spalling or cobbing machine. The model was submitted to the inspection of Messrs. Bedine and others, two of the directors, who visited the mines in the autumn of 1852; and, having made an estimate of the cost of its erection, I was requested by them to get the machine at work without delay. Mr. R. Stevens, engineer of the Steam-packet Iron-works, Cork, made drawings from the model which may now be seen at the offices of the Schull Bay Mining Commission in the beginning of 1853. The result was the reduction of the cost of stamping-mill at the Schull Bay Mines into a spalling or cobbing machine, which has been at work during the last twelve months.

April 8.

SIR,—I have now to satisfaction of knowing that my letter of March 26, in reply to
an anonymous paragraph of the previous week, has brought out Mr. Thos. Davies, the
late manager. It would be tedious work for me to follow Mr. Davies, and to wade
through the numerous statements he has ventured to publish, especially as I am well
well aware that I cannot plead ignorance to such a mass of inaccuracies; and I shall
points that were passed them unnoticed, as far as I possibly can, and confine my remarks to those
With regard to any figures or reality in them, I do not deserve a little further comment.
management to be 788*l.* 553 tons, and the dividends thereon during my twelve months' man-
fully and strictly confirmed, even as perfectly correct; therefore deducting the dividends
from the receipts, there will appear the sum of 384*l.* as disbursements, which have
been accounted for in a manner I need not note hereafter. Out of the numerous items this
grossing off, 80*l.* both of which, as represented by him, are in his just deliberation and judgment, has
claiming some one, or another, for his share. In this, he is grossly erroneous.—Expense of
addressed for the sums of 86*l.* Why does Mr. Davies select those two isolated items?
The reason is obvious. He knows that the 384*l.* was paid in dividends during the year
outrageous statement uncontradicted upon the public, well might it have been said the
dividends, under such circumstances, instead of realising 50 per cent. it should have
at least 75 or 80. Then, as to the 86*l.*, if the figure is a few pounds below the
the public, but he inserts "Agency" in the singular number purposely, and in order that
what let me inform you that 183*l.* 12*s.* per annum is appropriated that nice sum to myself,
the whole staff—manager, captain, and secretary, whose present time covers the cost of
as 223*l.* 12*s.* per annum. The mining public will, I am sure, from the statements
Mr. Davies asserts that the whole of the 5440*l.* was paid in dividends during the year
1848, while the mine was under his management, and that no dividends were paid in
1849, during which year he says he was not the manager. Now, to qualify my former
dividends paid was 3520*l.*; and in 1850, 1920*l.*—that in the year 1850 the amount of
two years, and in 1851, in a single year, as Mr. Davies states, the total of 5440*l.* as paid
Mr. Davies disclaims being manager during the year 1850, he must have had it
should have received his salary regularly during the year 1850? Is it not strange, then, that
month in 1860, and, in addition, he has sent in a demand for salary for that year, and for one
February and March of the same year (1860)? How is it possible to reconcile these
with his letter? I have no objection to his making use of any plausible story he
wants to tell, but in these days it is not likely such overdrawn statements will be taken
credit to distort my report of the disreputable state myself upon: Mr. Davies does so
me, as he says he did give up the management two months before—and when given up
Davies is wrong in assuming me of boasting, to which I emphatically plead "not
At this point I leave Mr. Davies to take his fling, and to trumpet in his trumpet in
strains, until we come to the splendid course of ore" discovered by his trumpet in
which I suppose ought to be christened "Mainstay." I am to this day convinced that
twelve months such facts having transpired. I must, however, say we have raised in the
time I undertook the management. We have made three or four reserves of ore, one
of which, by its appearance, has any connection whatever with the workings of
Davies, or with that remarkable year 1850, which he will not acknowledge. I am
desires to find Mr. Davies successful towards the new shaft, as he has always depre-

Sir,—But for the respect to myself and position, and co-unfortunate shareholders in this mine, I would not write my own time, or occupy so much space in the Journal, but simply treat Capt. Angove's unjustifiable letter with silent contempt. I would again repeat that which I stated at the beginning of his letter to truth, "I feel it as my duty to state that the representations and reports were borrowed from the shareholders." That none of Capt. Angove's representations and reports were borrowed from the shareholders is a fact in the sales of copper ore now going on, and that the shareholders and your reports are the only ones to judge for themselves, I feel it my duty to state.

The mine was being drained below Capt. Angove's own reports. Judge for themselves, some sixteen months ago I was told that anything emanating from the Capt. Angove's reports, Capt. Odgers and Angove) might be relied upon; and since then I have frequently been told that Capt. Angove worked in the mine at the last working, and that his reports were represented or reported on the mine could be relied on. Unfortunately this has turned out to be very different. It has been stated that with such reports as those furnished the mine ought to be paying labour cost; but what are the facts? The sales of tinstuff, £441. 6s. 8d.; and copper ore, 85s. 1s. 7d. This is not much more. The sales of tinstuff, and his constant repetition, even up to his last report to the meeting, "and again,—" If the adventure would make Wheel Nelson a dividend-paying mine, instead of holding 100 shares they would make 200. Capt. Angove, as myself, in- do with reporting down to July 25, 1874. Capt. Angove, as myself, in- als, like all other of his statements, is untrue, to which time Capt. Odgers, a manager of the mine, and not only so, but he wrote separately, and on Feb. 29, 1860, that the code in Nelson ad is looking splendid, worth 80s. per fathom. If my brother took up a stone of copper ore worth 80s. per fathom, and on Feb. 29, 1860, Angove, in the year of last year, he could only have had it on the mine, as stated by Capt. himself, and not as Capt. Angove would make out, that it was to represent the value of a parcel of ore in course of dressing, for no parcel of ore was actually sold for three months after, when Capt. Angove had it assayed by a Cornwall assayer, which ought a produce of 115s. No Mr. Editor and Cornish captain, what think you of putting inserted in the Ticking Paper 4 tons for sale, and when asked, what think you of not 9s., as Capt. Angove states. By his remarks, that since July 25, from the time of the last working, he attended to the monthly pay and setting-day of the mine, and that the quarters all information respecting underground settings and future prospects of the mine; this would lead any person to imagine that Mr. Wm. Watson took as in all other mines, which he holds the same position, it was his duty to send a copy of the setting-book of the different bargains set to the men, which he did, whether driving, sinking, rising, stopping, or on tribute, &c.

(* We have not space for the reports; besides, their publication is hardly requisite, as those interested can read them in the Journal—from Feb. 22, 1860, to Feb. 26, 1861. The result of the workings, unhappily, too surely confirms Mr. Watson's statement, that the expectations raised were not justified.—*Exp. M. J.*)

NATURAL OXIDE OF SILVER.

Sir,—In the *Mining Journal* of March 30 there appears a letter by "Chemicus," and in the *Times* one by "R. G.," which state that Mr. Squire has discovered a "natural oxide of silver," which (if I read the above letters correctly) cannot be reduced by the usual methods of assaying for silver, but that Mr. Squire has discovered some very mysterious process for reducing the same to the metallic state. Now, I do not (like some) deny the existence of native oxide of silver, but, on the contrary, maintain that there is such a compound, as I have in Mexico seen and assayed many samples; and I may state I never assayed more docile ores than Mr. Squire fuses (say) 400 grs. of his gossan, with twice its weight of litharge (free from silver, of course), 800 grains of carbonate of soda, or potash, and as much ground charcoal, or "argol," as will reduce the litharge, he will find on cupelling the resulting button of lead that he will obtain every appreciable quantity of silver the gossan may have contained; and further, if the ores contain, as the above letters state they do, as much as 216 ozs. of silver per ton, it is only necessary to fuse them with any alkali to obtain the silver—nay, almost any substance which will form a thin slag with the matrix of the ore will give the same result. Was it not, Mr. Editor, the same Mr. Squire who some time ago discovered a native oxide of gold, and a process for reducing the same to the metallic state? Had he discovered a process for retaining the gold as an oxide he would certainly have made a discovery, as oxide of gold is reduced by light, and oxide of silver is one of the easiest salts of silver reduced.

I would advise "Chemicus" and his friends to put their capital together and purchase all the gossan they can, and get the silver from it on their own account. It may not be out of place to remind Mr. Squire (if he does not yet know it) that he will also find a *fabulous* percentage of his own oxide of gold in the gossan. Perhaps it has never struck him to dissolve his button of silver in nitric acid to see if it contained gold.

NATURAL OXIDE OF SILVER. PLATA Y ORO.
SIR.—From the tenor of the letters bearing upon this subject, published in last week's Journal, there certainly appears to be a vast amount of disagreement amongst the authorities, which induces the opinion, with me at least, that there is still much to be learned concerning the manipulation of silver ores, and an ample field for the researches of scientific men. And where can be little doubt that the solution of the all-important question will be attempted by many who have no just claim to scientific or practical knowledge, I would offer a few suggestions to those connected with mirrors, to ascertain the prospects of successful results being arrived at: enable them which is now shining with such dazzling brilliancy is "Chemists;" but until he disclaims that he aspires, as it is the general opinion he does, to an elevated position amongst that class of *savans* known in the scientific world as "Argento-Arterial alchemists," I must presume that he is a trans-escapist, which may be represented by the same symbol as is used upon the centigrade thermometer scale to point out the freezing point (32° Fahr.). Should the opinions entertained be erroneous, "Chemists" could at once take steps to correct them.

Some of the schemes which have been brought forward are so absurd upon the face of them, that except from their having been countenanced by the too credulous public they would be unworthy of notice; "Chemicus," however, leaves the question in so vague a state, that until he gives some more decisive information it is difficult to say whether his views are correct or otherwise. The fallacious schemes may be laid bare thus:—It is stated that (I will give cwt.s. and lbs. so that non-chemical readers may understand) say, in every ton—of silica, 10 cwt.s.; alumina, 7 cwt.s.; sulphur, 1 cwt. 3 qrs. 24 lbs.; copper, 1 cwt.; and silver, 4 lbs. Now, these quantities make up precisely 1 ton; and although such proportions might never be found together, a careful analysis will show the constituent parts of a ton to an equal nicety. With the above are all that *chemistry* can do, assuming so perfect a process to be discovered that in the reduction or smelting works every atom of the metal could be obtained, is to extract 1 cwt. of copper and 4 lbs. of silver. Science tells us, indeed, that only the metal contained can be obtained.

In contradistinction to this, these new alchemists tell us that from the above ore they can, by submitting it to a certain preparatory process, enable the smelter to obtain 2 cwt.s. of copper and 8 lbs. of silver. This is a fact which I certainly should not think of doubting; I believe nothing is more easy. I have read in the *Mining Journal* that in the treatment of poor copper ores salt is an invaluable material to employ in the process; and I believe most conscientiously that by the judicious application of the "salting" process, not only could 2 cwt.s. of copper and 8 lbs. of silver be obtained, but 2 ozs. of gold also.

Cost, however, is the great question; for the expense of the "salting" process, carried out in such perfection as to give these results would be (supposing the ordinary working cost to be *nil*) too high to permit of its practical application, even in conducting this operation there would be required 1 cwt. of copper—worth 42. 18s.; 4 ozs. of silver, 12.; 2 ozs. of gold, 77. 15. 9d.—131. 13s. 9d., an amount which it will at once be seen precludes its practical application. Of course, to obtain, as "Chemicus" proposes (or has been declared to have proposed, for I contend that simply claims to extract all the silver which assay shows to exist in the ore), the expense would be at least 25*l*.

I rejoice to read or hear of the products obtained.

I rejoice to read of the value of the products obtained. I am not so easily as some carried away by schemes according to which it is proposed to extract nine times the metal originally contained in the ore. I have so much respect for Mr. John Calvert's opinion that I feel unable to wrestle with it; and as the views of Mr. Evan Hopkins nearly accord with my own, it will be unnecessary to enter upon a lengthened argument upon his letter. I trust "Chemicus" will obtain all the laurels he deserves.

Sir.—Press of business of late has prevented me from paying the attention I should to the valuable contents of your Journal; however, catching a glimpse of Mr. Squire's remarks on his wonderful discovery of your Journal; however, catching a glimpse of Mr. Squire's remarks on his wonderful discovery for the extraction of such vast quantities of silver from gossans and other contaminable ores, and having a mine from which you relate he could raise thousands of tons of gossan, that will only yield from 10 to 20 ounces of silver to a ton, caused me to cheer up for a moment, and, as I was about to go to bed, I thought I would have been doing so much better if I had known what I and my brother Cornishman had been doing, or how long a life! Surely we have been stumbling over masses of oxide of silver, and have not discovered it. I paused for a moment.

[illegible]

said I was not over fond of chemical assay, and I give a few words by way of expla-

I trust that the interest attached to the question itself will be my excuse for occupying so much of your valuable space.

CHRISTOPHER BINKS

Sir,—Very little, I believe, has as yet been made known with respect to the geological features and mineral productions of the northern parts of the Brazilian empire, owing, no doubt, in a great measure to the circumstance of those parts not being traversed by high and steep mountain ranges (such as generally present great facilities for the discovery of mineral deposits, owing to the top parts of the latter being in most places denuded and exposed to view), but, on the contrary, containing only low ranges of hills, thickly covered by dense primeval forests, and, besides, the population of the said parts is comparatively very small. At all events, mining has hitherto been an entirely unknown branch of industry in those parts, and the discovery of the existence of auriferous deposits in the Province of Maranhao may be said to be owing to mere accident; the discoverers being fugitive slaves, who, chased by their pursuers, penetrated further and further into the forest, where some of them, perhaps, may have picked up some nuggets of gold, the value of which becoming known, induced them to further search and dig for the same. The attempt at a more thorough exploration of the deposits of the precious metal were brought about by the circumstance of various parcels of gold, obtained from those runaway negroes in the course of a clandestine traffic, finding their way to the seaports.

The high-sounding name of "Montes Aures" has been given to the spot where some mine operations have already been commenced—the very first, I believe, of the kind in the whole province. In the forests surrounding that locality there are met with numerous "diggings" of the unfortunate original discoverers—the fugitive slaves; and I have no doubt but that there are similar diggings in many other, and I have no doubt but that, for many leagues distance from the above mines I noticed in the forest traces of footpaths whose destination the guide did not know, but which he asserted were made by those "campeiros." Unfortunately, no reliable information can be obtained as to the quantity of gold that may have been obtained by those fugitives from their shallow diggings, any intercourse with them being strictly prohibited by Government; but I heard it stated that several residents in the province—Portuguese and others—got wealthy much sooner than the yield of their plantations or the profits of their business might have led people to expect, and it is rumoured that the dealings with those blacks had something to do with it. But as all the diggings of those fugitives which I came across were very shallow, and in no case penetrated to that depth where "pockets," or large-sized nuggets, might reasonably be expected, the gold obtained by them must have been in the shape of dust, or thin scales, such as invariably occurred in almost every one of the pits we tried, and the larger-sized gold they may have obtained must have come from decomposed backs of quartz reefs on spots where such were cropping out to the surface.

The actual mining operations at Montes Aurores, carried on by Capt. Martin, an English mining engineer of 30 years' experience in Brazilian gold mining, are as yet of a very limited extent, inasmuch as the greater part of the working power has hitherto been directed principally to necessary work of a preliminary nature—cutting roads through many leagues of dense forest, clearing the ground, building houses, making large reservoirs, &c. most of which works, however, are now nearly completed. The mine operations consist principally in an open cutting, with a short adit level commenced from the face of it, by which an auriferous channel of rock has been operated upon, which bears nearly north and south, underlying 19° to 20° to west. Some exceedingly rich specimens of gold were obtained from this cutting, and a few, which have been assayed by Messrs. Johnson and Matthey, yielded 1520-750 ozs., 330-750 ozs., and 40-225 ozs. per ton respectively. The gold which has been sent away as the produce of the mine appears to have been obtained principally from such specimens, and from washing in bateas the stuff obtained from the bed of a stream of water which is made to flow through part of the cutting, and which stuff is so rich that grains and scales of gold are readily obtained in the palm of the hand by merely washing a handful of it. The water of that stream is shut off during the night, and sentinels are placed near the cutting and the bed of the stream, the latter being further protected by Capt. Martin engraving with his stick every evening a series of apparently cabalistic characters upon the surface of the gravel; all which precautions are very necessary, as the surrounding forests are still haunted by those fugitive slaves, whose huts, fresh footprints, and a batea evidently stolen from the establishment, we met with at a few miles distance from the latter.

The surface configuration of the ground surrounding the mines consists of ranges of low roundish hills, alternating with ravines and valleys, all being densely covered with primeval forest, containing countless noble trees of excellent timber. Immediately beneath the vegetable surface, there occur in many parts, especially the hill sides, a thin stratum of highly feruginous clayey ground, of partly a brecciated, gravelly, conglomerate nature, and evidently composed of minerals resulting from a decomposition of the base rock of the localities.

G. J. GUNTHER.

Sir,—I had no intention of making any observations on the proceedings of the Silver Vein Company until I saw the "Silver Augmenting Process" brought forward as an accomplished fact by several correspondents, not only in the columns of the *Mining Journal*, but also in the *Times* and other papers. The same system of puffing, and printing deceptive paragraphs, was pursued during the gold-making mania, more especially on the eve of the disclosures, by which the promoters and those in league with them were able to dispose of their worthless free scrips at high premiums. I was under the impression that the Silver Vein Company was merely an experimental one, to test Mr. Squire's "silver augmenting and extracting process" on a small scale, and that the directors had no intention of undertaking any large operations until the value of Mr. Squire's scheme had been proved. But it appears now that the experiments are still carried on, without any definite results, large works are being erected to reduce the so-called silver ores on the large scale, and that the shares are being sold at 2½ premium!

Mr. Squire's report (April 4) has again increased the curiosity of your readers, and gives the undertaking not only a *bona fide* appearance, but also creates the impression that the company has actually established itself on such "rich silver-bearing lodes, and which are daily increasing in size and richness," that the mines require to be locked up to prevent their being stolen.

These statements of the existence of rich silver ores in large quantities, with the announcement that the "results from the ores continue in bulk with the same evident success," &c., read like real operations carried on at our silver mines. Had I not lately received a printed statement, equally expatiating on the merits of a new undertaking, which, on independent investigation, proved to be absolutely valueless, I should have been led to put some faith in the proceedings of the Silver Vein Company.

However, it is to be hoped that the right hon. Chairman and his co-directors will shortly be able to ascertain, by the reduction of (say) 50 tons of the raw material, the true product in silver, and give such an explanation as will require to be locked up to prevent the ores from being stolen.

the diagonal shaft and get the water out." This he has since done; but where are the 2 tons of ore per fathom? At this time (a month ago) I accidentally but, fortuitously, met a large Devonshire shareholder. And on asking Capt. Angove questions respecting the mine, for his explanations on its valuations and reporting, &c., we could get nothing from him but prevarication and insult; and instead of accompanying us out on the mine (on the floor), to explain anything, contented himself by remaining in the account-house smoking his pipe.—April 11.

PETER WATSON.

WEST WHEEL FRIENDSHIP.

Sir,—In reply to the letter which appeared in the Journal of April 6, signed "Philo-Typhoon," I beg to say that I know well the author of the letter, and if he were raised within cannon-shot of West Wheel Friendship it was one of Armstrong's long ranges, or he shows a lamentable ignorance of everything that has been done upon the mine by the old adventurers, of whom I was one. Now, Mr. Editor, as to his remarks relative to the proposed mode of working the mine, and the required power necessary to effect this object: if "Philo-Typhoon" ever knew anything of the late workings of the mine, which I am much inclined to doubt, he certainly should recollect it was in consequence of the inefficient water-power which caused such heavy expenditure, and on many occasions prevented their working more than half the time, and eventually compelled the adventurers to abandon the mine altogether. Several competent engineers were consulted, and the subject having been well considered, it was decided that water-power could not be effectually applied for re-working the mine. "Philo-Typhoon's" knowledge of managing mines must be limited indeed, when we recall to mind the heavy unnecessary expenditure of money in erecting useless machinery in a mine near Westminster, in Devonshire, under his so-called management. In the last working of the West Wheel Friendship a new engine-shaft was sunk some fathoms, and it was decided to erect a powerful steam-engine; the panic at this time, however, having affected this as well as many other progressive mines, several ineffectual attempts were made to raise sufficient capital for this purpose, and it was with very great reluctance that several heavy holders, whose outlay had been very considerable, were obliged to abandon the project for want of more support. With regard to the 6000*l.* allotted to the mine and plant, many thousands more have been expended there, which the present company will derive the advantage of. Having the evidence of two eminent mining men, Mr. Josiah Hiltchius and Captain James Richards, whose reports are circulated, and knowing, also, that the mine contains some of the finest lodes in the district, which may be seen by anyone who chooses to visit the mine for themselves, I have no doubt we shall see this mine second to none in the two counties.—April 12.

TRUTH.

Notices to Correspondents.

TINCROFT MINING COMPANY.

The ordinary annual meeting of shareholders was held at the company's offices, Winchester-street, Old Broad-street, on Tuesday.—Mr. JOHN FIELD in the chair.

The notice convening the meeting having been read, a statement of accounts for the twelve months, ending Dec., was submitted, from which the following is abstracted:—

Tin ore sold.....	£15,291 13 1
Copper ore sold.....	5,222 12 3
Arsenic sold.....	35 0 0
Interest and discount.....	157 11 8
Old materials.....	453 17 2 = £21,170 14 1
Mine cost, for the four months ending April.....	£6,297 18 10
Do, for the four months ending Aug.....	6,487 2 10
Do, for the four months ending Dec.....	6,395 5 1
Extra disbursements.....	271 18 4 = 19,453 6 1

Profit upon the twelve months.....£ 1,718 8 0

PROFIT AND LOSS ACCOUNT.

Assets over liabilities, December, 1859.....	£4,427 9 8
Profit as above on twelve months' working.....	1718 8 0
Dividend on reserve fund reinvested.....	63 8 11
Cheque cancelled.....	10 1 5 = £6,219 8 0
Dividend declared.....	£1500 0 0
Reserve fund.....	2272 7 3
Assets over liabilities.....	2447 0 9 = £6,219 8 0

The report of the agent was read, as follows:—

April 6.—Highburrow Lode: Since the last meeting the engine-shaft is sunk to the 184, and I have this day set the 184 to drive east and west of said shaft; the lode at present is rather disordered, and not of much value. In the 173, driving east of engine-shaft, the lode at present is disordered, by means of intersecting the cross-course, but I hope in about 6 ft. further driving to get out of this channel of ground, when I think we shall get tin-bearing ground, and that of moderate value. Martin's east-shaft, sinking under the 173, is worth for tin 35*l.* per fm. In the 173, driving east of Martin's east shaft, the lode is worth for tin 9*l.* per fm. In the 173, driving west of Martin's east shaft, the lode, or rather that portion which we are driving, is poor; we cannot communicate this level with the 173, east from engine-shaft, in about 15 fms. further driving, and will take us about five months to accomplish the same; this, when done, will greatly relieve Martin's east shaft from the water, which is now drawn by flat-roads through the 142, and will also enable us to make trial of the other part of the lode, which we think is productive, but at present would be unwise to open on, as it would impede our progress from making the communication spoken of. In the 162, driving east of Martin's east shaft, the lode is worth for tin and copper 10*l.* per fm. In the 120, driving west of Downright shaft, the lode is worth for copper 20*l.* per fm.; this lode was out a fortnight since, and I consider it a good improvement, the same not having been seen under this level at this point. Martin's east perpendicular shaft is being sunk 5 fms. under the 120.—Chapple's Lode: In the 162, driving west of the engine-shaft, the lode at present is unproductive. In the 152, driving west of Downright shaft, the lode is worth for tin 8*l.* per fm. In the 152, driving east of winze, the lode is worth for tin 10*l.* per fathom. I reckon on a communication being made from this with the level above named in about a fortnight from this time, when a very valuable piece of ground will be made available for taking away, as you will perceive from the plans sent you. The 142 is driven west to the boundary, and I have this day set a boundary winze to sink, which will go down close upon the ground on which Cook's Kitchen party are raising the principal part of their tin. The winze sinking under the 142, west of No. 1 winze, is yielding good saving water for tin, and a very kind lode.—Dunkin's or New Lode: In the 142, driving west of Martin's east shaft, the lode is worth for tin 30*l.* per fathom. We have driven on the course of this lode about 10 fms., and for the whole length driven it will average the same value (30*l.* per fm.); this is a good improvement, and you will perceive from the plan a large amount of high ground is standing on the course of this lode. At North Tincroft there is no new feature, and I should recommend that we continue our operations as at present. Our stops and pitches continue to yield their usual quantities of tin and copper ores, and I think I am safe in saying that the prospects of these mines have never been better since I have been connected with them than at the present time. We have employed at present these mines 207 men, 102 boys, and 79 girls, making a total of 388.—WILLIAM TEAGUE.

The CHAIRMAN said that from the accounts just submitted it would be seen that the net profit for the twelve months ending December amounted to 1718*l.* 8*s.* 0*d.* out of which the directors had declared a dividend, which at the present time was in course of payment, in addition to which 150*l.* had been added to the reserve fund. But he should mention that there had been during that time an expenditure of about 1800*l.*, which might be called an addition to the plant. Consequently, if that addition to the plant had not been made there would have been the amount thus expended to be added to the divisible profit. The board had, however, thought it right to apply that in liquidation of the merchants' accounts; and it would be observed that after allowing for all liabilities the assets amounted to something like 4710*l.*, which consisted of 2270*l.* in the reserve fund, and the sum of 2447*l.* over and above the amount for which the company was liable. Therefore, it may be taken that the sum of 1800*l.* would have nearly paid another dividend, but the directors had thought the proper mode of dealing with the amount was to meet the expenditure which had been incurred upon the machinery and plant.

Mr. EDMONDS enquired whether the amount named as the profits of the year included the sum realised by the sale of old materials?

The CHAIRMAN said that such was the case, the actual profits amounting to about 1600*l.* Mr. EDMONDS enquired if the additional expenses of 1860 were likely to recur?

The CHAIRMAN: Certainly not to anything like so large an extent.

Mr. EDMONDS said that when they were returning a larger amount of tin, which realised only about 40*l.* per ton, and produced with the copper returns between 30,000*l.* and 40,000*l.*, the machinery was found ample. But now that they were not producing near the quantity of ore, but of a different kind, and why they had incurred a further outlay for machinery to work a loss to understand.

The CHAIRMAN said Capt. Teague was present, who would answer that question. The great reason why they had incurred the expense of erecting additional stamp heads was in the expectation of obtaining an increase of returns. He must say that Capt. Teague had not yet been able to fulfil his promise in that respect; the reason and the controlling causes which had prevented that result being brought about Capt. Teague would explain. But with regard to the comparison of the result of the operations at the mine during the past year with that which immediately preceded it, there would not be found so great a difference as many gentlemen had seemed to suppose. For instance, the returns during 1859 realised 23,900*l.*, whereas during the last year they realised 20,860*l.*, so that, in fact, the difference amounted to only some 3000*l.* less over 3000*l.* For the purpose of eliciting discussion, he would now move that the report and accounts submitted be received and adopted.

Mr. BLEWS seconded the adoption of the report.

Mr. EDMONDS wished, before that resolution was put, to state that he had requested to be permitted to examine the directors' minute-book, but the Chairman denied the right of any shareholder to examine those minutes. When he (Mr. Hodgson) occupied the chair of that company never did any shareholder ask for book, paper, document, or information but that he directed the secretary to furnish the shareholder with all that he required; and what he (Mr. Hodgson) now asked—to examine the minute-book of the directors—he did not ask as a matter of courtesy, but demanded it as a perfect right.

The CHAIRMAN said that in all well ordered companies, and the more especially in scrip companies, the directors' minute-book was always acknowledged and considered to be the private and exclusive property of the directors. He was of the decided opinion that in a company like Tincroft there ought not to be (and he could testify there were not) any secrets as between the directors and the shareholders; but with regard to Mr. Hodgson, it was not the first time that he had made an application for the minute-book of the directors, but they did not forget that Mr. Hodgson was formerly engaged in litigation with the company, and they thought they were—

Mr. EDMONDS: I beg leave to say, Sir, that I was never at litigation with the company. In fact, the difference amounted to only some 3000*l.* less over 3000*l.* For the purpose of eliciting discussion, he would now move that the report and accounts submitted be received and adopted.

Mr. FRANCIS FRYON presumed that the board had no authority, as paid agents of the company, to withhold any information which shareholders might think proper and necessary, and, therefore, they had no right to withhold the book which contained the rules of the company, and intimated that he should presently move a resolution to the effect that the directors' minute-book should be open to the shareholders.

Mr. EDMONDS thought directors should be anxious to make known every fact and everything that transpired, for if there was anything that involved a mystery it always created an unfavourable impression upon the public, as unfavourable impressions should not exist. Mr. BLEWS thought the gentlemen who had spoken could not have clearly understood the Chairman's remarks, for he had distinctly stated that if shareholders decided that the directors' minute-book should be opened for inspection the directors had no objection. The directors, in whom the shareholders placed their confidence, distinctly stated that it was not for the interest of the proprietors at large that the directors' minute-book should be produced. The directors were entitled to the fullest confidence of the shareholders, and they occupied quite a different position to that assigned them by Mr. Fryer. Having discharged their duties they were worthy of the shareholders' confidence, and, therefore, were not merely the paid servants of the company. They were the representatives of the company, and as such they were anxious as any shareholder possibly could be to promote the best interests of the company.

Mr. F. FRYON said that while they had every confidence in the directors, as they were not elected by the shareholders, there was an additional reason for a perfect scrutiny of everything done.

The CHAIRMAN said it was an unfortunate thing that he had not been able to convey a clearer idea of what he intended to convey than seemed to be the case. That company was managed by directors, and when shareholders stated that directors were withholding information they stated that which was not true, for it was their earnest desire to provide them with every information they desired.

Mr. EDMONDS said what he wished to say was this—the directors were quite willing that every shareholder should see the directors' minute-book; but, at the same time, they considered, and they spoke advisedly, that, according to the custom of the company, the directors' minute-book, being the record of their own proceedings, did not contain matter which was the property of the shareholders. But he would remind the meeting that they were out of order, as the motion before them was the adoption of the report and accounts.

Mr. EDMONDS enquired who had purchased the tin during the twelve months?

The CHAIRMAN said he supposed what Mr. Hodgson really meant was,—how much of the tin had been purchased by Mr. Tyrie? In answer to that, he would state that only one parcel had been purchased by Mr. Tyrie. It would have been much better for the company had he bought more than he had done.

Mr. EDMONDS enquired of Mr. Balster if he could state that the cost-sheets then on the table were in every respect what they should be?

Mr. BALSTER said, in answer to that question he must state that there were certain things done on the mine with which he disagreed; and also that they had been charged 5*s.* 6*d.* for coal, but consequent upon the objections which he had raised they were now paying but 4*s.* for the same description coal, and even now they were paying too much.

The CHAIRMAN said that it had struck him as something singular that Mr. Hodgson's remarks, instead of being addressed to an individual director were not addressed, as was usually the case, through the chair. But as Mr. Balster had answered those questions, he (the Chairman) thought he could not do better than leave Mr. Balster to explain; but he thought that Captain Teague should be allowed to afford any explanation he was able to give.

Mr. BALSTER said he was at a perfect loss to understand why Mr. Hodgson or any other shareholder should have asked him individually any question with regard to the accounts.

Mr. EDMONDS said it was purely an accidental circumstance.

The CHAIRMAN said, whenever Mr. Balster or any other director had called attention to any item in the cost-sheets which required explanation, the explanation had been made. He would now ask Capt. Teague to reply.

Mr. BLEWS could not see there was any defined charge to which Capt. Teague could reply.

Mr. BALSTER did not charge Capt. Teague with anything at all; he merely made a statement that a man and a boy, the boy being Capt. Teague's son, had during the past few months earned certain wages.

Capt. TEAGUE said he considered that his son had never had more than a fair price for the work done. By reference to their cost-sheets, it would be seen that in some months the men's average earnings appeared high, but then it must be remembered there were other months during which the earnings were equally low. With regard to his having refused Mr. Balster's agent to inspect the mine, when Mr. Balster was on the mine he (Capt. Teague) would have been glad to have furnished any information which Mr. Balster desired. He refused Mr. Balster's agent inspecting the mine upon the ground that he would not permit an agent to go underground without an order signed by the secretary.

The CHAIRMAN said, when the matter was brought before the board a letter was sent to Capt. Teague, informing him that he had quite mistaken his duty in refusing a director to inspect the mine.

After some further discussion the report and accounts were adopted.

Upon the proposition of Mr. FRYON, seconded by Mr. EDMONDS, it was resolved that the directors be requested to convene a meeting every four months.

The CHAIRMAN said that he personally did not entertain the slightest objection to holding meetings every four months.

Mr. BLEWS then proposed a resolution to the effect that it was essential to the interests of the company that the directors should be elected by the general body of the shareholders, and that they should retire by rotation, but were eligible to offer themselves for re-election.

The CHAIRMAN declined to take that resolution, the opinion of the solicitor of the company being that it was not competent for a general meeting of shareholders to fill up any vacancy in the direction, or to elect directors. The fact was that the company was formed when scrip companies were in fashion, and was got up in a very loose manner.

The board had made every effort to alter it, but had found themselves in very great legal difficulty. He felt very strongly that it would not be his duty to submit a resolution of this kind, being at variance with what might be called the constitution of the company. But if there were any means by which, supposing the terms of the resolution to be the expressed wish of the shareholders, it could be carried out, he would gladly inform them what course they ought to follow.

The resolution having been altered to meet the objections raised, it was put and carried unanimously.

A resolution was then passed, recommending Mr. E. Boyle to fill the vacancy occasioned by the decease of Mr. Cumberland. A vote of thanks was passed to the Chairman, when the proceedings terminated.

BOTTLE HILL MINING COMPANY.

The second general meeting of shareholders was held at the company's offices, St. Michael's-alley, Cornhill, on Wednesday.

Mr. CAVERDISH BENTINCK, M.P., in the chair.

The notice convening the meeting having been read, the minutes of the last were read and confirmed. A statement of accounts was then submitted, from which the following is condensed:—

Balance last audit.....	£222 12 5
Tin sold, Dec.....	221 6 7
Do, Jan.....	245 11 8
Do, March.....	438 7 2
Copper ore sold.....	229 16 2 = £1,550 14 0
Mine cost, Nov. to Feb.....	£260 2 10
Tributors' balances.....	356 10 3
Do, advances.....	17 0 0
Foundry account.....	38 1 9 = 921 14 10

Leaving cash balance.....£ 378 19 2

The assets exceeded the liabilities by 849*l.* 5*s.* 1*d.*

The report of the committee was then read, as follows:—

The committee, in presenting their second report to the shareholders, would observe, in the first place, that since the last meeting, on Dec. 12, the severe frost set in, and as all the stamps at the mine, as well as the drawing machinery, are worked by water power, they were soon frozen up, and the drawing, stamping, and dressing operations for some weeks were entirely suspended, and for nearly two months greatly interfered with. This weather also delayed the completion of the new wheel and stamps. For these reasons much less tin has been sold than we were led to expect at the last meeting, and a fall of 10*l.* per ton in the quarter past of that sold has also affected the credit side of the accounts now presented. In these accounts for the quarter they would also observe that four months' costs are charged, and these costs have been increased by at least 1000*l.* on account of the new test, wheel, stamps, &c., the latter of which were to work about the last meeting of February. The reason why the agent led us to expect that the last meeting has not taken place, and from the agent's report it will appear that the mine is not looking so well generally, though there are two good and important points in it, but we are led to expect a considerable reduction per ton in the costs for the future, while we hope the returns will be more regular. At the last meeting the agent expected to sell in January 7 tons of tin, for 860*l.*, and it will be seen from the accounts that the sale did not take place, on account of the weather, till March 12, when it realised 426*l.* 10*s.* 8*d.* The sales of ore since last meeting have realised 1128*l.* 2*s.* 5*d.*, and the agent estimates the quantity broken on the mine and now in course of dressing at 20 tons, which at the price of tin at the last meeting would have been worth 1600*l.*, but at the present price only 1400*l.*, and but for reasons before referred to the greater part of this tin would have been sold this time. The cash balance in hand is 378*l.* 19*s.* 2*d.*, and estimated assets over liabilities 849*l.* 5*s.* 1*d.*—G. C. BENTINCK, J. Y. WATSON, F. R. WILSON.

The report of the agent was then read, as follows:—

April 8.—I beg to send you a report for the general meeting.—Main Lode: Old Engine-shaft: The piece of ore ground named in my report of Dec. 7 last as being east of the 24, did not turn out to my expectation, as the piece of tributors' left that place shortly after, as reported in February last; the tiny branch making off northward did not prove to hold good.—Vigors's Shaft: We have stopped a piece of ground about 10 fms. in length, and although we have returned but a very small quantity of the stuff, yet I think it will pay, for the present, this is stopped, as we cannot stamp, the tributors having the stamps. This is a small trial of the large piece of ground mentioned in my former report, but we have not been able to do more unless at an increased outlay, and even then we should have only added to our stock of tin stuff, without seeing our way clear to stamp it for some time to come. Two pairs of tributors, six men, are working near this shaft, at 13*s.* 4*d.* in 1*l.*—Baron's shaft: Since the last report we stopped about 10 fms. of the piece of ground opened here, but, as mentioned before, the lode was very variable, as shown by the rich stones of tin produced at the last meeting; a pair of tributors, five men, are now at work here, at 13*s.* 4*d.* in 1*l.*—Josiah's Shaft: The tributors are still working in the 12 east, on the gossan part of the lode, but I do not see any change from the last report; the men will make good wages. We suspended the cross-cut from the 24 south, to find the gossan part of the lode seen in the 12, owing to the men being wanted elsewhere; but when this part has been further tried in the 12, we shall resume this driving. No further working has been carried on in this part of the mine since the meeting.—Buckingham-house Lode: We have driven the 12 east about 10 fms., for the last 5 fms. the lode has been regular, about 18 in. wide; the lode in the present 24, did not turn out to my expectation, as the piece of tributors' left that place shortly after, as reported in February last; the tiny branch making off northward did not prove to hold good.—There is a good lode gone down in the bottom of this level, and we are now driving a cross-cut from the 24, on the main lode, to intersect this lode in the same level, and fully expect a good lode, and hope the shoot of tin has lengthened. I calculated to have seen the lode about this time, but as yet it is not seen; the men are now in 5 fms.; I hope to see the lode in 6 feet further driving; six men driving this end, at 2*s.* 2*d.* per fm.—Robert's Lode: The rise in the 28 is held to the 17 within about 6 feet; the lode in the rise is poor. We have at length completed the new stamps, and they are now in full work. I am very sorry for the great delay in com-

pleting this machinery, &c., but, as you know, we could not prevent it, and the frost with us was very severe. This also prevented our drawing from underground, stamping, and dressing, so that I fear the company have sustained a heavy loss by these delays. The last parcel of tin did not turn out so well as I expected, and the only reason I can give is this, that the tin, although equal in bulk to our returns generally, was lighter. There is a great quantity of stuff broken underground as well as at surface. The tributors are dressing their tin, and will return during the next two months about 12 tons of tin. The owners' tin broken I estimate from 6 to 8 tons, and I expect to set the new wheel and stamps to work on this stuff in about three weeks. You will see there are two points on the mine of some importance—that is, the good lode in the 12, east of Buckingham-house-shaft, and the 24 cross-cut to Blanchard's lode. The completion of the stamps, new test, drag, tramway, &c., has caused a considerable outlay. The machinery is in good working order.—JOSEPH EDDY.

Mr. CROKER (the purser), in answer to a question, said they had enough tin stuff to keep the stamps at work for many years to come. He thought that in future the monthly cost of the dead work of the mine—driving and exploring, would not exceed 30*l.* The tin stuff was extremely variable in its character, sometimes being exceedingly rich, but the average of the lode would give a very fair profit.

Mr. J. Y. WATSON, F.G.S., reminded the shareholders that their operations had been materially retarded by the unprecedented severity of the weather.

Mr. CROKER said that they had lost, so to speak, two months, or in other words, their position in two months hence would be that which, but for the weather, they should be in at the present time. One of the most important points at present in the mine was the cutting of the lode under the point where Blanchard's lode was worth 40*l.* per fm. When at the mine, yesterday, he had some extra men sent down, the captain feeling assured that they were within a few feet of the lode, and after he arrived in London a telegram was received from the captain to the effect that Blanchard's lode had just been picked into, the lode looking well, and producing good stones of tin. It was exactly under the point where the lode had been proved in the level above.

Mr. J. Y. WATSON said of course it was their object to have the mine worked fairly and honestly, but also to realise as much profit as they could; and he enquired of Mr. Croker to what extent he calculated they might reckon upon having their expenditure reduced?

Mr. CROKER replied that that would in a great measure depend upon the quality of the lode; but he thought they might easily reduce the cost to 150*l.* per month. The reason the cost had not yet been reduced was that there were several points in the mine which Capt. Eddy considered ought to be tried, and the carrying out those necessary operations had prevented the cost being reduced as much as had been expected. But he was satisfied from the quantity of ground now laid open that the cost could be reduced to something like 150*l.* He thought they were in a position to reduce the cost of dead work to a minimum, and to increase the number of tributors.

The reports and accounts were then adopted, and a vote of thanks to the Chairman was passed, when the proceedings terminated.

GREAT RETALLACK MINING COMPANY.

An ordinary general meeting of shareholders was held at the company's offices, George-yard, Lombard-street, on Wednesday.—Mr. THORNTONWATTS in the chair.

Mr. JOHN WATSON (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed:—

Balance last audit.....	£642 16 0
Mine cost, Nov.....	560 8 11
Do, Dec.....	348 5 3
Do, Jan.....	526 19 0
Do, Feb.....	226 9 9
Merchants' bills.....	226 9 9
Royalty.....	186 1 5
Cash for blende, returned in July, 1860.....	27 6 0
Discount and interest.....	16 14 2 = £3012 6 8
Cash received for blende sold, Oct.....	£784 19 1
Do, Dec.....	1014 10 0
Do, Jan.....	184 17 6
Call received.....	64 13 6 = 2649 0 1

Leaving debit balance.....£ 363 6 7

The assets and liabilities were—Estimated proceeds of 400 tons of blende sold January (45*s.* per ton), 840*l.*; estimated proceeds of 1000 tons (40*s.* per ton) to be sampled on the 12th inst., 2000*l.*; call unpaid, 371*s.* 8*d.*—2877*s.* 8*d.*—Balance in above statement, 363*s.* 6*d.*; merchants' bills, 862*s.* 4*d.*; royalty (estimated), 361*s.* 18*d.*; leaving balance of assets over liabilities of 1289*s.* 19*d.*

The SECRETARY then read the appended report:—

April 9.—Since the last meeting of the adventurers we have completed Stephens's shaft to the 35, and extended a cross-cut south 10 fms. through capel, spar, and killeas, south of which we have a moderate lode of blende above the 30; the best of the blende made under or on the south side of the capels, &c., but as the best of the lode at the 35 is now on the south side of them, and 10 or 11 fms. from shaft, we found it necessary to go up to the 20 and bring down the shaft on the lode to the 35, which we shall complete in a few days, and then sink on the lode below this level. The productive part of the lode, as far as cut into, is about 5 fathoms wide, and we are opening on it east and west of the shaft, at 8*s.* per ton of blende, by 15 men; it is of a similar character to the upper level, except that it is harder, contains more spar, and occasionally we find small stones of copper and lead in it. In the 30 the tributors ground is not so good as it was, and is set at a higher tribute. The first pitch, extending for 10 fms. east of Stephens's shaft, is set at six men, at 9*s.* per ton of blende, and the other, extending from this to the eastern boundary, set to 12 men, at 7*s.* per ton. We have sunk a small shaft on a lode 50 fms. north of the great lode for 5 to 6 fms., in which the lode is 5 ft. wide, with spots of copper and lead in it, and we think of a promising character. We have now on the floors dressed above 300 tons of blende, in addition to about 1000 tons on the wharf at Truro, and but for the accident to the engine and the severity of the weather, by which we were hindered above a month, we might have had much more. The part of the lode in which we shall be sinking below the 35 fathom level will be soft, and we hope to make good progress.—W. H. REYNOLDS.

The CHAIRMAN having moved the adoption of the report and accounts,

Mr. J. Y. WATSON, F.G.S., stated that he had received a letter from one of the committee, Major Fitzgerald, suggesting that the present meeting should be adjourned until such time as the ore had been sold. The reason they had not yet sold that ore was from the fact of the smelters having thought that one sample from so large a parcel as 1000 tons was not a fair test; and they had suggested that it should be divided into four parcels, with which the committee had agreed to comply. In the statement of accounts just submitted the 1000 tons was estimated at 40*s.* per ton, which was 5*s.* per ton less than that which the last parcel realised.

The CHAIRMAN thought that as the only object that could be gained by an adjournment would be the knowledge of the amount that the blende had realised, they had better pass the accounts, the more especially as means would be taken by which the shareholders should be made fully acquainted with the amount realised.

Mr. J. Y. WATSON reminded the meeting that but for the severity of the weather the ore would have been sold two months since.

Mr. EDMONDS could not see that any object would be gained by an adjournment. Mr. J. Y. WATSON said his only object in bringing forward the question of adjournment was in order that shareholders might fully understand that, in passing the accounts just submitted, so far as the assets and liabilities were concerned, they were estimated only.—It was then resolved that the accounts should be passed and allowed, and the report received and adopted.

The question of the offer of the lord, Capt. Retallack, to the company to work as a separate company another portion of his mineral ground, was then considered, when, after some conversation, it was agreed that the thanks of the meeting be given to Capt. Retallack for his handsome offer, but that in the present depressed state of mining the company must decline accepting it.

A vote of thanks to the Chairman was then passed, when the proceedings terminated.

[It will be seen from the sale of the ore since the meeting that although of the same quality as that which realised 45*s.* per ton in January, 860 tons only were sold at 1*l.* 12*s.* per ton, and 100 tons at 2*l.* per ton, thus reducing the estimate about 520*l.*.]

NORTH WHEEL ROBERT MINING COMPANY.

An ordinary general meeting of shareholders was held at the company's offices, Bishopsgate-street Within, on Thursday.—Mr. PROCTOR in the chair.

Mr. J. H.

cannot report its value, but hope to do so in our next report. We shall resume the cross-cut again in a month's time, as there are two other lodges within a short distance. We have commenced a cross-cut at the 58, and as soon as convenient shall drive one at the 58 also. We think there is little doubt of this adding materially to our sales of tin. In the 27 east the lode is worth 10¢ per fathom, and opening ground that will work at 5¢. In the 27 west the lode is full of tin, but so far as we have cleared the lode is standing whole in back, bottom, and side; here we have opened the length of two pitches, which are working at 7¢. In the 11.—Durio Shaft: The 110 and 90 west are poor at present. On the whole, our prospects are much better. We have 23 pitches, employing 52 men, at an average tribute of 5¢. In the 11. We sold on Thursday last 10 tons 18 cwt. of tin, amounting to 756¢. 1s.; this will leave a little profit.

DYFENGLWYM.—April 9: The lode continues to look well in the 70 east. The driving in the 40 end is quite as well as ever; drawing and dressing go on well. The dry weather has set in, but this time we shall manage to treat 10 tons a week, even in dry weather. We are shipping by the *Countess of Lisbon*, but in future expect to ship by the steamer.

EAGLEBROOK.—H. Tyack, April 10: In driving the 30 west of the engine-shaft we are still continuing to drive on the south part of the lode; the vein still continues, and we have now some good green coming into the vein, which is looking very promising for soon becoming productive. In driving the 20 west of the engine-shaft, since I last wrote you we have had some very good stones of lead ore in the direction we are driving, which is on the north, and we shall soon commence to cut down the south part of the vein, which I have no doubt will enter into good ore. In the 20 east the 30 the lead continues without any alteration since my last report. We are still going on with the picking of the ore at surface; we have now from 6 to 7 tons of lead ready for the crushing-mill.

EAST ALFRED CONSOLS.—H. Skewes, April 10: The cross-cut in the 70 south is progressing satisfactorily. The western end on the south lode, in the 60, is 2 ft. wide, worth for copper 6¢ per fathom. No alteration to notice in any other part of the mine.

EAST CARN BREA.—T. Glanville, April 10: In the winze sinking below the 26 the south lode is yielding 6 tons of ore per fathom. In the winze sinking below the 40 the middle lode is yielding 3 tons of ore per fathom. In the 40, driving west, the south lode is yielding 3 tons of ore per fathom. In the 40 west the middle lode is yielding 2 tons of ore per fathom. In the 50 west the middle lode is yielding 1 ton of ore per fathom. In the 50 east the lode is 2 ft. wide, composed of spar and yellow ore. There is a large stream of water issuing from the end, and by the appearance of the lode we expect an improvement shortly. In the 26 west no lode has been taken down during the past week.

EAST GREENVILLE.—G. R. Odgers, April 6: The lode in the western end of the engine-shaft, sinking below the 25, is 2 ft. wide, composed of gossan and quartz, with black and grey ore to 18 ft. deep; it is not looking so well, but I find the engine is again improving. In the eastern end of the shaft the lode is from 4 to 5 ft. wide, of gossan, quartz, and pryan, with an excellent branch of ore, and I broke from the extreme bottom of the shaft a beautiful kibble of work; altogether we think the lode is gradually improving, and which we calculate to be worth 10¢ per fathom, for tin, independent of the copper—a pretty looking lode. In the 25 east the lode is small, but which we think will open shortly, producing tin. In the 25 west the lode is from 18 in. to 2 ft. wide, of gossan, quartz, and pryan, with occasional stones of ore, and worth for tin from 6¢ to 7¢ per fathom.

—G. R. Odgers, April 11: The engine-shaft is now nearly 6 fms. 2 ft. below the 25 where the lode is 3 ft. wide, and worth for copper ore full 30¢ per fathom; it is not so well in tin, though probably 6¢ per fathom—a most promising thing. The lode in the 25 east is small, and it appears to be opening again; it continues in the elvans. The lode in the 25 west is full 2 ft. wide, composed of pryan, quartz, and gossan, yielding tiny stuff. I think, from the features this end is presenting, that it is going over a similar thing to that in the shaft.

EAST GUNNIS LAKE AND SOUTH BEDFORD.—J. Phillips, April 11: We have taken down the lode in the 36, and find it to be 2 feet wide, worth 2 tons of copper ore per fathom, and every appearance of improvement. All other places continue much the same as when last reported.

EAST ROSEWARNE.—John James, April 6: The ground in the 55 cross-cut is hard, and spare for driving. Our progress is very slow. We have driven from the shaft 17 fms. 3 ft.; we have about 9 fms. more to drive to cut the lode. In the 43 west the lode is from 20 in. to 2 ft. wide, yielding fine stones of copper ore; the lode has greatly improved in the last two days, and from every appearance is likely to yield some good returns below the rich produce ore we had in the 22 east this point. In the 43 east the lode is 9 in. wide, yielding good ore, worth 9¢ per fathom. We have holed the 43 rise to the 33 winze this day; in the rise we have 4 fms. of the lode standing, which will yield some good ore. We have set 10 pitches in this ground, west of the rise, at 5¢. and 10¢. In the 43 west the lode is worth from 12¢ to 15¢ per fathom. In the 33 east of Hallett's, the lode is 6 in. wide, yielding muddle and a little ore, with every indication of improvement. We have set the 22 cross-cut to drive north of King's, to cut the north lode; we expect to have to drive 7 fms. to prove this piece of ground beyond the present north lode; 5 ft. have been already driven; price 4¢ per fathom for driving. We have set King's shaft to sink below the 6, to complete the 12, by four men, at 3¢ per fathom; we think it should be sunk down with all speed, as we have only about 17 to 18 fms. to be under the shaft in the 43, which level has been mostly productive. We have every reason to expect a continuation of ore in this level west towards the cross-course, which is now 70 fms. west of our 43, above the elvan course. We have set sixteen tribute pitches this day to thirty-eight men, at tributes from 4¢. to 13¢. 4d. in 11. Our prospects at present are much as for the past two months.

EAST TREFUSIS.—J. Pope, April 11: I have nothing new to inform you of in the 58 cross-cut, north of Smith's engine-shaft, since my last advice. In the 58, west of engine-shaft, on Smith's lode, the lode is 18 in. wide, consisting chiefly of quartz. In the 34, east of cross-cut, on Trelawny's lode, the lode is 3 ft. wide, and continues to yield stones of copper ore, quartz, and fluor-spar. In Trelawny's flat-roof shaft, sinking below the 30 from surface, the lode is 3 ft. wide, producing good stones of yellow copper ore.

EAST WHEAL FALMOUTH.—W. Hancock, April 9: The new engine-shaft is sunk 9 fms. 3 ft. below the surface. The water is issuing very strong from the new lode or branches we have sunk through, which greatly impedes our progress in sinking.

EAST WHEAL RUSSELL.—J. Pryor, April 11: Having inspected this property, and minutely examined the relative position of the cross-cut north in the 100, and the winze sinking under the 88, on the north part of the lode, I feel convinced there are about 8 or 9 fms. more to drive to cut the north part of the lode, which is now looking so well in the winze sinking below the 88; and from the appearance of the 100 cross-cut north, with branches of rich ore dipping north, there does not appear to be the slightest doubt of cutting a rich and valuable lode; and, in addition to this, the 110 is sufficiently advanced for cross-cutting to the lode on the point of junction; therefore, from these circumstances, a very short period is likely to place East Wheal Russell in a much better position than it has been for a considerable period.

—J. Goldsworthy, April 10: At Homersham's shaft there has been nothing done in the 110 east this week, the water being in, owing to a breakage of the blower's heads in Hithins's shaft. We hope the water will be in for by to-morrow, when the driving of the cross-cut towards the north lode will be commenced. In the 100 east, on the south lode, the lode is 4 ft. wide, producing 1 ton of ore per fathom. In the 100 cross-cut east the driving is continued north, where we have branches of ore dipping north. There are two new stopes set in the back of the 100, one east and west of Oats's No. 1 winze. In No. 1 winze no lode has yet been taken down. The stopes east and west of Oats's No. 2 winze are worth 2 tons of ore each per fathom. The stopes in the back of the 88, on the north part of the lode, is worth 20¢ per fathom. The lode in the winze sinking below the 88 fms. level, on the north lode, is worth 30¢ per fathom. The lode in the western end of John's rise, in the back of the 77, is producing stones of ore. The lode in the rise in the back of the 66 is producing stones of ore.

EXMOUTH.—J. P. Nicholls, J. Nicholls, April 10: The lode in the 72 north is improved in value, being now about 1 foot big, composed of quartz, muddle, and lead, worth of the latter 1½ ton per fathom, and from its appearance, together with being near the point where we had a good lode in the 60, we are led to expect a greater improvement shortly. The stopes in back of the 72 are yielding about 4 or 5 tons of lead ore per fathom. The cross-cut east from the 20 south has intersected a lode, which it is as yet not cut through, therefore we cannot state its size or value. No other alteration to notice since our last report.

POWEY AND PAR UNITED.—John Tredinnick, April 9: The ground in the cross-cut is just the same for driving. We have not cut Lucas's lode yet, but cannot be far off from it. We are opening on one of the north lodges, on which a considerable amount of work has been done by the ancients. We have set bargains for excavating the foundation and building the engine and boiler-houses, which will be commenced without delay. We shall cut down Palmer's shaft, and sink it perpendicular to take Coleman's shaft at about 30 fms., and then drive on the cross-course north and south to intersect the other lodges.

FRANK MILLS.—J. P. Nicholls, J. Cornish, April 10: The 84 north is not quite so good as last reported, the ground having become a little stiffer. We have commenced the winze and rise from the 60 to the 72 north, since which we have resumed both the 60 and 72 ends, but there has not been sufficient done to report any alteration. The lode in the winze sinking in the bottom of the 72 is looking well, and will still yield 2 tons of lead ore per fathom. We have not intersected any more lode in the 60 cross-cut east since our last report, but the ground is very good. We are still making fair progress with our wide stall at the 45, and the lode maintains its size and value. The stopes in the back of the 60 and 45 fms. levels are yielding their usual quantity of ore. There is no alteration in the tribute department, or any other point worthy of remark. We are making good progress with the dressing for the next sampling.

FURSDON.—J. Hampton, J. P. Daw, April 9: In the 21 cross-cut we have not met with anything new since last report; we are driving west on what we assume to be Margaret's lode, and have broken some good stones of ore, but nothing to value. The lode is letting out water freely, and the ground very green, with spots of ore. The 11 east is producing stones of ore. In the 11 west we have not got through the lode; we are still stripping down the side of the level, which is producing saving work; the present end is now 9 ft. wide, and no signs of any south wall. Barstall's stopes are worth about 3 tons per fathom. We shall have about 30 tons ready to sample by the end of this month.

GAWTON.—G. Rowe, April 10: The 36 west is still improving; the lode is 3 feet wide, made up of black and soft sugar-sand, very strong muddle, and a branch of good quality yellow copper ore 3 in. wide; in the bottom part of the end a middling stream of water is issuing; this looks kindly. In the mean time we are using our best energies to clear the stuff, in order to resume driving the 50 west. All other operations are without change.

GONAMENA.—R. Peace, W. George, Jun., April 10: The lode in the 90, east of the cross-course, is 1½ ft. wide, worth 10¢ per fathom. The lode in the 90 west is without any change to notice since the meeting. No lode has since been taken down in the 80 east. In the 70 east the lode is 1 ft. wide, composed of peach, pryan, muddle, and spots of copper ore, and letting out a quantity of water. The stopes below the 58 is producing 2 tons of copper ore per fathom.

GREAT BRIGAN.—T. Trelease, J. Cruse, April 9: The North Trekerby lode, driving east of the Trevenning shaft, is from 2 to 3 feet wide, composed of capel, spar, and muddle, with a branch on the north wall 4 in. wide, containing good stones of copper ore; this lode, driving west of the said shaft, is much of the same size and character, with spots of ore; we consider this to be a very promising lode indeed, and when properly laid open, in our opinion cannot fail to prove very productive. The deep adit level is extended west from Trevenning lode to Oats's shaft, which is 55 fms.; here a cross-course was met with, and the above shaft sunk below the adit level (reports say about 18 fms.). We purpose driving this shaft, on the cross-course, to intersect North Trekerby lode; it is about 30 fms., the ground being easy for driving; we think it may be seen in about two months from this time. This is a very important point to be reached, as all the parallel lodges to the south in Brigant and North Downs have proved to be productive when intersected with the cross-course.

GREAT ONSLOW CONSOLS.—O. Rickard, April 8: The lode in the winze below the 107 east is worth for muddle and ore 9¢ per fathom. The ground in the 122 east is a little harder, but still very favourable for being driven through. In the 122 west there has been no change of importance during the past week.

GREAT RETALLACK.—W. H. Reynolds, April 6: The shaft is not quite completed to the 35, but in five or six days we hope to be ready to sink below this level. We have re-

set the pitches at the 30, at 7¢. and 9¢. per ton, and that at the 35 at 8¢. per ton. The shaft on the new lode is down 5 fms.; lode 5 ft. wide, and of a very promising character.

GREAT SOUTH TOLGUS.—J. Daw, April 10: The lode in the 125, east of Lyle's shaft, is 3 ft. wide—a very promising lode. The lode in the 112 west is 2 ft. wide, composed of spar, peach, and muddle. In the 100 west the lode is 1½ ft. wide, producing 1 ton of copper ore per fathom. In the 40 west the lode is 2 ft. wide, producing 1½ ton of copper ore per fathom; also at this level we are driving east on a south branch, which is producing 1 ton of ore per fathom.

GREAT TREGUNE CONSOLS.—John Rowe, April 11: The lode in the 80 west is gradually improving, and the branches are much better each other than when reported on last week, and we hope in a few feet farther driving these branches will form a junction, at which point it is more than probable the lode will be found, as we have before anticipated. We have now driven the 80 fms. level west about 8 fms. The machinery is all working well.

GREAT WEST SETON.—H. Cowling, April 11: We have cleared out the engine-shaft 14 fms. from surface, but have not reached the back of the adit level; however, we can see the back of the lode in this place, which is from 2 to 3 feet wide, and has a very good appearance, composed of rich looking gossan, true water-spar, muddle, and some green copper. I have been informed that there is a very fine lode crossing our set by a miner who worked in an adjoining one; they sold 1 ton 5 cwt. of lead, which fetched 26¢ per ton; this is a north and south course, and crosses the eastern part of this mine.

GREAT WHEAL ALFRED.—Wm. Bugelhole, W. Arthur, April 10: Copper-house Shaft: The north part of the lode, in the 220 east, is 4 ft. wide, worth 19¢ per fathom. The stopes in back of this level, east of the shaft, is 5 ft. wide, worth 19¢ per fathom. The south part of the lode, in the 210 west, is worth 12¢ per fathom; the principal part is standing north. We have stripped down 2 ft. of the south part of the lode in No. 1 winze, the principal part is standing south, and the part cut through is worth 5¢ per fathom. The lode in No. 2 winze is worth 54¢ per fathom. The lode in No. 1 stopes is worth 23¢ per fathom; No. 2 stopes, 25¢ per fathom; No. 3 stopes, 26¢ per fathom; No. 4 stopes, 24¢ per fathom; No. 5 stopes, 22¢ per fathom; No. 6 stopes, 19¢ per fathom; No. 7 stopes, 15¢ per fathom; No. 8 stopes, 28¢ per fathom; No. 9 stopes, 27¢ per fathom; and No. 10 stopes, 11¢ per fathom. We have cut through the lode in the 200, east of the shaft; the lode is 2 feet wide, and poor. We have suspended driving the 190, east of Painter's shaft, for the present. No change in the 160 cross-cut since last report.—South Lode: The lode in the winze sinking below the 137, west of Copper-house shaft, is worth 17¢ per fathom.

GREAT WHEAL BADDERN.—J. Jenkin, April 10: Your favour of yesterday, the 9th, came duly to hand. In reply, I beg to say the ground in the shaft seems to be very spare for sinking, and continues much the same as for some time past. We hope it will soon change for the better, from present appearance, as we have a little more lead mixed with the muddle and blende in the several branches crossing the bottom of the shaft the last day or two.

GREAT WHEAL BUSY.—James Dalbridge, J. Petherick, J. Bryant, R. Giles, E. Richards, April 6: In the engine-shaft, sinking below the 120, the lode is from 1 ft. to 20 in. wide, yielding good stones of ore and tin, and saving stuff for dressing. In the 120 rise, above this level, against Fielding's shaft, the lode is small and poor. Offord's shaft, sinking below the 120, the lode seems to be large towards the east end of the shaft, yielding grey stuff, but not to value. In the 100 cross-cut north we are driving in the hills; the ground is letting out more water than usual, and from every appearance we are not far from the main part of the lode on the great elvan-course. In the 100, east of Offord's, the lode is 6 feet wide, yielding at present 10 tons of ore per fathom. In the 90 winze, east of Offord's, the lode is 10 ft. wide, yielding 12 tons of ore per fathom, with tin throughout the lode. In the 90 end, east of Offord's, the lode is 2 ft. wide, at this time yielding 16 tons of ore per fathom. The 90 fms. level stops, over the 90 end, are yielding from 14 to 16 tons of ore per fathom. In Mathew's shaft, sinking below the 80, the lode is 6 ft. wide, yielding 6 tons of ore per fathom, with tin throughout the lode. In the 80, east of ditto, the lode is 4 feet wide, low-priced stamping work. In the 70, east of ditto, the lode is 7 ft. wide, producing stones of ore, with low price stamping work. In the 40 east the lode is from 20 in. to 2 ft. wide, with a little tin, saving stuff. In the 100 rise, against the old sump-shaft, the lode is 2 feet wide, tribute ground for tin. In the 90 west the lode is 3 feet wide, producing a little tin, but not to value. In the 80 north cross-cut, north of Fielding's, we have cut the north or main part of the lode, yielding a little tin, but having only cut the south wall we cannot report its value nor its appearance. In the 50, west rise, against Black-god shaft, the lode is very large, yielding fine stones of copper ore, but not much to value. In the 70 cross-cut north the ground is favourable; no appearance of any lode. Our tribute department throughout is much as for the past two months. We are progressing with the surface work satisfactorily.

GREAT WHEAL MARTHA.—H. Rickard, April 11: On Saturday last we held our monthly setting, when the following pitches and bargains were set:—Tribute: Three pitches to 20 men, at an average tribute of 7¢. 6d. in 1¢; and one pitch to two men, at 10¢. in 1¢, for two months.—Tutwot: The 40 to drive east from engine-shaft by six men, limited 3 fms., at 7¢. 7d. per fathom; the same level west from shaft to drive north, or cut through the lode, by six men, limited 1 fm., at 6¢. 5d. per fathom. A winze to sink below the 30, east from rise, by six men, limited 3 fms., at 6¢. per fathom. The 30 to drive east, on the north part of the lode, by six men, limited 4 fms., at 5¢. 4d. per fathom. A rise to drive west from Thomas's shaft, by six men, limited 4 fms., at 5¢. 4d. per fathom. A rise to drive north by 20 to 40 men, limited 2 fms., at 4¢. 10d. per fathom. Winze drawing from the 10 and 20, at Thomas's shaft, at 5¢. 6d. per 100 kibbles; also from the engine-shaft, at 9¢. per fathom. Filling and landing at Thomas's shaft by two men, for two months, at 5¢. per 100 kibbles; also at the engine-shaft by two men, at 6¢. per fathom. All the tramping by two men, at 6¢. 10d. per month. The lode in the 40, east from engine-shaft, is not quite so good for copper ore as last week, yet it has the appearance of an early improvement. The lode in the 40 west is divided by the cross-course. We are driving to intersect the north part; the south part is producing a little copper and muddle. The winze sinking below the 30 will open out a valuable piece of ore ground, as well as ventilate the bottom level of the mine. The lode in the 30, in the back of the 30, is as well as in the present end, is a good grey lode. We are obliged to suspended some of our best pitches for a short time, in consequence of our floors being so filled with ore, having upwards of 700 tons undressed. The prospects of the mine are good, and not a moment ought to be lost in making every effort to get the shaft to a sufficient depth for another level during the summer months.

GURLYN.—W. W. Martyn, J. Rose, April 11: Saturday last, being our monthly setting, the different pitches and bargains were re-set, as follows:—The engine-shaft to clear to the bottom, by eight men, at 8¢; the lode in each end of the shaft is from 1 to 2 feet wide, composed of quartz, peach, muddle, tin, and copper ore. The 60 to drive east of ditto, by two men and two boys, at 40¢. per fathom. The 50, west of ditto, by two men and two boys, at 42¢. per fathom. The pit to cut in the 50, by four men, at 60¢; when this is completed they will commence to sink the sump winze-shaft from the 50 level to the 80. The 80 to drive west, by one man and a boy, at 45¢. per fathom. The 40 fm. level west of ditto, by two men, to clear and second level, per fathom; this end we hope to clear by Tuesday next, when we shall resume the driving at once, where we anticipate opening up some profitable ore ground. The 40 to drive west, on Riches's lode, by six men, at 55¢. per fathom; the lode produces stones of tin, but not to value. The winze to sink below the 30, by four men, at 60¢. per fathom; lode from 2 to 3 feet wide, yielding good saving work for the stamps. As we have not been able to see sufficient of Bardwell's lode to report its value we will give it in our next report. We have nine pitches set, from 10¢. 6d. to 13¢. 4d. in 1¢, for tin and copper. On Thursday last we sold 2 tons 9 cwt. 17 grs. black tin, realising 170¢. 16s. and are preparing a batch of copper ore for market.

GWYDYR PARK CONSOLS.—W. Smith, April 11: We have taken down the lode in the deep adit, which is looking more promising for lead than I have ever yet seen it, still producing saving work; we have broken through it 18 in., but no footwall; the ground is close for driving.

HAWKMOOR.—J. Richards, J. T. Phillips, April 9: We have commenced driving west; the lode is composed of quartz, capel, stones of copper ore, a good-looking and large lode. In the 60 east, the lode is from 1½ to 3 feet wide, composed of pryan and muddle. In the 50 east the lode is worth 1 ton of copper ore per fathom. In the 50 west the lode is 2 feet wide, composed of quartz, muddle, and occasional stones of ore. In the stopes in back of the 50 east the lode is worth 2 tons of ore per fathom. In the pitch in back of the 30 east the lode is worth from 3 to 4 tons of copper ore per fathom. In the 20 east the lode is small. In the adit level west, at West Hawkmoor, on the No. 2 lode, the lode is small but kindly, and is producing some very good stones of copper ore, and promising further improvement.

HERVARD UNITED.—T. Pierce, April 11: In the 45 yard level, west of Dunford's shaft, the cross-cut south of Martin's sump is in a very promising ground. We have cut into three or four joints with little ore in each of them, and we expect another stronger one. The 55 yard level, west of Dunford's shaft, is without any alteration since last reported upon. The 80 yard level, west of Dunford's shaft, continues hard. The vein also is much as usual. In the 60 east, we expect to meet a cross-cut every yard, and to have the vein easier to cut. The 80 yard level, east of Dunford's shaft, promises well, and we are looking daily for an improvement. Croasie's vein is without any alteration worth noticing since last reported upon. There is no alteration with the tributaries this week. We have sold to-day at the Holywell sale 16 tons of lead ore, at 12¢. 8s. per ton.

HINGTON DOWN CONSOLS.—T. Richards, April 10: There is no change in Morris's engine-shaft, sinking below the 120. The 120 east is for the present suspended. The 110 fms. level endmen are rising in the back against Drew's winze. The 100 west will produce 4 tons of ore per fathom, and of a very promising character. The 85 west will produce 6 tons of ore per fathom. The 75 east will produce 3 tons of ore per fathom. There is no alteration in any other part of the mine.

HOLMBUSH.—F. Pryor, R. Pryor, T. Woolcock, April 9: In the 175, east of shaft, the lode is at present poor; in extending this level about 4 fms. we calculate to come under some grey ground seen in the level above. In the 175, west of shaft, the lode is improving, and is yielding good stones of copper ore. In the 160, west of shaft, the lode is 1 ft. wide, producing good stones of copper ore.—Lead Lode: In the 160 north the part we are carrying is 2 ft. wide, worth full 8¢. per fathom; by extending this level we expect to intersect two copper lodges, one of which we hope to cut by the end of this month. If the ground continues the same as at present, the 160 north is not looking quite so well as when last reported. We are cutting through the lode at the 145 south; about this place we had a good lode in the level above.—Flap-Jack Lode: The winze in bottom of the 145 on which is down about 10½ fms., and also to communicate with the 160 as soon as possible. In the 50, east of winze, the lode is improved; lode 4 ft. wide, composed of muddle, spar, and copper ore, and worth of the latter 3 tons per fathom. In the winze sinking below the 50, the lode is 2 ft. wide, with a good appearance, and worth 4½ tons of copper ore per fathom. We have commenced a rise in back of the 70, to communicate with the winze as soon as possible. The 40, west of Wall's shaft, is at present disordered. In the 20 east of Wall's shaft, the lode is 2 ft. wide, worth 10¢. per fathom. The rise in back of the above level is improved; lode 5 ft. wide, worth 15¢. per fathom. Our pay and setting went off very well. We calculate to have by next sampling about 330 tons of copper ore, and to sample this week 45 tons of lead ore.

HUCKWORTHY BRIDGE.—J. H. Roda, April 10: The lode in the engine-shaft, sinking below the 25, is 3 ft. wide, composed of capel, peach, muddle, pryan, and spots of copper ore. The lode in the 25 east is without alteration since last reported.

KELLY BRAY.—J. James, April 6: The lode in the 75 east is 2 ft. wide, composed of muddle, quartz, and stones of copper ore. There are about 2 fms. 4 feet further to drive the above-named end to get over the productive ground in back of the 85, which we hope to complete in about one month from this time. The lode in the 45 east is from 2 to 3 ft. wide, producing muddle, blende, and occasional stones of ore. The tribute department is much the same as for some time past; the men are working in good spirits, and earning fair wages.—Eastern Mine: The 70 cross-cut has been driven north towards the lode 16 fms., in strongly mineralised strata, and we are daily meeting with branches containing muddle, mica, and rich copper ore dipping north towards the lode, showing good indications of there being a productive lode ahead. We calculate there is from 6 to 9 ft. further to drive to cut the lode. The lode in the 61 east is still looking very kindly, becoming more and more productive. It is from 1 to 2 ft. wide, composed of quartz, fluor-spar, muddle, and rich copper ore, and we have passed over several rich bunches of ore in the bottom of the level during the past month. The ground is easy for exploring, and during the past month six men drove 7 fms. 3 ft., and the end is re-set to the same par at 4¢. 10d. per fathom, month stent. The men pay for all cost connected with their working.

LADY BERTHA.—Capt. Harper and Metherell, April 8: The 53, east and west, are without any particular change to notice since our last. In the 41 east the part of the lode which we are carrying is composed of muddle, peach, and stones of ore. The cross-cut, driving south of the 41 west, is letting out large quantities of water; the adit is now composed of capel, quartz, pryan, and spots of muddle, which causes us to think we are approaching the other part of the lode. The stopes in the back of this level are improved since our last; the lode being from 2½ to 3 ft. wide, composed of muddle and ore, worth of the latter 6 tons, or 80¢. per fathom. In the 30 east the ground is very much improved during the last few days, and has a congenial appearance; we intend cutting through the lode in this end at once. The lode in the stopes in the bottom of this level is large, consisting of peach, muddle, quartz, and ore, worth of the latter 6 tons, or 24¢. per fathom. In Crossman's winze, in the bottom of the 20 east, we are sinking by the side of the lode. The tribute department is much as usual.

Capt. Harper and Metherell, April 11: The different endmen are much the same, both in appearance and character, as when we wrote Monday last. The stopes in the back of the 41 west will yield about 5 tons of ore, or 80¢. per fathom. The stopes in the bottom of the 30 east are producing 6 tons of ore, or 24¢. per fathom. No change in the tribute department. We are getting on favourably with the dressing of ore for the next sampling.

LOWER PARK.—W. Davies, April 9: Paddock Shaft: The ground in the 20 yard level, driving north, is greatly improving, and I have reason to believe, from the present appearance of the end, that we are not far from a large body of ore. We have found some small portions this morning.—Griffith's Shaft: We are driving a cross-cut to intersect the lode, which will be about 4 yards, and save much labour in wheeling. We have carried the ore to the dressing-floors, and commenced dressing this day.

MAUDLIN.—W. Tregay, J. Tregay, April 6: The lode in the 50 west will produce 2 tons of blende per fathom. In the 50 east the lode is 3 ft. wide, composed of peach, muddle, and spots of copper ore. The cross-cut at this level has been driven through the north part of the lode, which is here 5 ft. wide. A rise will be put up in back of this level (where a shoot of copper ore remains) to prove the lode up into the gossan.—West Mine: Nothing cut since last report.

MOLLAND.—T. Bennetts, April 10: The lode in the 52 west is 3 ft. wide, producing a few stones of ore, and assuming a more promising appearance than last week; in the same level east the lode is still poor, and split up; ground moderate. The 49 east having been cleared and secured, the men are now driving the end; the lode in which is large and poor, with spots of ore to be seen occasionally. The lode in the 32 east is 1½ ft. wide, with a small branch or two of ore, producing altogether 1½ ton of ore per fathom. In the winze sinking below the stopes in the bottom of the 20 east, the lode is large and promising, producing 1½ ton of ore per fathom. Our engine appears to be in good working order.

NANTEOS AND PENRHUW.—H. Beundy, W. Pauli, April 8: We beg to hand you our setting report for these mines, held on Saturday last:—Eayntumten: The shaft sinking below the deep adit is now down 8 fathoms 3 feet, and we hope to get it the required depth in about six weeks. The stopes in back of this level, and east of No. 3 rise, is set to eight men, at 31. 3a. per cubic fathom; the lode is yielding 15 cwt. of lead ore per fathom. The stopes in back of this level, and west of No. 3 rise, is set to four men, at 31. per fathom; the lode is yielding 8 cwt. of ore per fathom. The level to drive west of No. 3 rise is set to four men, at 5¢. 5a. per fathom; the lode is yielding 6 cwt. of ore per fathom. The winze sinking below Eascoe's level is set to four men, at 6¢. per fathom; the lode is yielding saving stuff. Row's level, to drive west of No. 1 rise, is set to four men, at 5¢. per fathom; the lode is yielding 6 cwt. of ore per fathom. The stopes behind this end is set to four men, at 11. 15a. per fathom; the lode producing 7 cwt. of ore per fathom. The stopes in the back of this level, and west of No. 3 rise, is set to four men, at 2¢. per fathom; the lode is yielding 9 cwt. of ore per fathom. The stopes in back of this level, and east of No. 3 rise, is set to four men, at 2¢. 10a. per fathom; the lode is producing 8 cwt. of ore per fathom.—Bwighgwyn: The 30, to drive east, is set to four men, at 5¢. per fathom; the lode in this end is 2 ft. wide, composed of muddle, blende, spar, and lead ore, a very productive looking lode.—Tribute: seven pitches, set to twenty-two men, price varying from 6¢. 15a. to 7¢. per ton. All the machinery is working well.

NANT-Y-LAGO.—J. Roach, April 9: The lode in the 10, east of the engine-shaft, is composed of capel, sulphur, a little blende, and lead ore, but very tough and hard to value; from present indications an improvement may be expected at an early date. In the 10 west the lode is 3 feet wide, consisting of capel, sulphur, and occasional stones of lead ore—a very kindly lode; I intend to drive 2 fathoms more, when if nothing better is discovered we shall rise on the ore already driven through. The lode in the deep adit, east of the cross-course, is 5 ft. wide, chiefly composed of flookan and small quantities of carbonate of lime. The 6 tons of lead ore, as I believe I have before informed you, has been sent to Holywell: 23 tons of blende has been forwarded to Messrs. Wright, 8 tons more will be sent to-morrow, and the remainder as fast as possible.

NETHER HEARTH.—W. Vipond, March 28: The vein in the end continues good, with every indication of improvement as we get more into the limestone. The working below adit is also yielding good work at present, and likely to do for some time yet. The cross-cut north is producing ore that will more than pay cost; the ground here is very hard. Taking it altogether, I have not seen the mine looking better for a long time. I shall send you the bargains next week.

—April 8: The vein in the end of the level continues good; it is worth at present 16 cwt. of ore per fathom, and set to four men to drive, at 42¢. 6d. per fathom. The working below adit is going underneath the clunchy ground we had in the level, and we expect a considerable improvement about 2 fms. further on, where we cut the vein good in the limestone; it is set to two men, at 27¢. per fathom, and yielding about 4 cwt. per fathom; the cross-cut north is yielding about 6 cwt. of ore per fathom, and set to two men, at 55¢. per fathom.

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proved a great trouble and expense for the last twenty years. The tribute pitches are not looking quite so well as for some weeks past. As we cannot stamp any more while the lobby is being done, I purpose burning and preparing for sale what tin we have.

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WENTNOR (Fantasia).—T. Pierce, April 19: Mr. Lester was here on Monday, and assisted me in dealing the greatest sinkings; he will report to you from Broadford. We are agreed that it is desirable first to put out cross-cut from the 64 yard level to the lode reported last week to have come in on the eastern side. It is often the case that where two lodes are running parallel, or nearly so, one with the other, the ore makes in one lode only; I shall, therefore, set this work at once. We are also decided that the sinking should be from Grovenor shaft. I propose to put men at once to repair the present bottom of shaft, to widen the lodge, and then set the shaft to sink 16 yards, which will make the shaft 40 fms. from surface.

WEST BASSET.—W. Roberts, April 10: In the 94 west the lode is 2 ft. wide, producing 2 tons of ore per fathom. In the 84, west of Hoskins's winze, the lode is 3 feet wide, producing 3 tons per fathom; and in the rise in back of the 65 the lode is 3 feet wide, worth 2 tons of ore per fathom. In other parts there is no alteration to notice since last reported.

WEST CONDUER W. G. Bennett, G. Jewell, April 11: We have now commenced to drive east and west of the engine-shaft in the 12'. The lode west is about 5 ft. wide, and producing saving work for tin; the east end is 4 feet wide, also producing saving work for tin. In the 24, east of Purser's shaft, the lode is 3 feet wide, impregnated with copper ore. In the 34, west of Purser's shaft, the lode is 2 feet wide, and of a very promising appearance, further improvement may be daily expected. In the 12, east of Purser's shaft, the lode in the winze is 3 feet wide, and looks very promising, producing saving work for tin.

WEST FOWEY **NOISLS**.—**F. Puckey, E. Dunstan, April 8:** Western or Tin Part, Puckey's Lode: In the 100 feet the lode is 2 ft. wide, but poor. In the 110 cast the lode is 4 ft. wide, worth 20¢, per fathom good tin. In the 120 cast the lode is 5 ft. wide, worth 10¢, per fathom. In the 130 cast the lode is 3 ft. wide, worth 15¢, per fathom. In the 135 cast the lode is 5 ft. wide, worth 10¢, per fathom. In the 137 cast the lode is 5 ft. wide, worth 20¢, per fathom; in the same level west the lode is 4 ft. wide, worth 15¢, per fathom.—**Eastern or Copper Part:** There are no alterations in this part of the mine to notice since our last report.

WEST KALK.—J. E. Webb, April 1: The adit level is being driven on with good speed by four men, in cheap and easy ground.

WEST SHARP TOR.—W. Richards, April 8: The part of lode now being cut into in the 150 cross-cut is just the same character as reported on last week; gossan of the finest description, impregnated with crystallised red oxide and native copper, and a little grey and black copper ore—a very encouraging point for a fine course of ore at the next level.

We anticipate a further improvement as we extend into the lode at the same point. The sinking has been continued below the 150 by a full pair of nine men in easy ground for 14 ft. and 14 ft. 6 in. below the 150.

WEST SOUTH CAROLINA.—W. Johns, J. Williams: Set to drive east of cross-cut, on Davey's lode, to four men and two boys, at 13¢ per fm., to pay for drawing, landing, the stuff, &c. We have several branches in this end which contain good stones of rich ore. We are obliged to suspend the sinking of the new shaft for the present in consequence of the increase of surface water, but as soon as the weather settles in dry we shall resume it again.

WEST TREVELYAN.—J. D. Osborn, April 6: Cater's engine-shaft is sunk to the 58, and next week we shall be engaged casing and dividing the shaft. In the 48 west the lode is 18 in. wide, and weighs 121 per fm. A stope in back of the said level, west of the 48, is wide, 200 per fm. In the winz along level 38 west there has become a lode 40 in. wide, 100 per fm. In the cross-cut driving north from Cater's, the lode at Pryor's lode, the ground is favourable for driving. In the cross-cut driving south from Park shaft, there is no alteration since last report.

WEST WENTON COALS.—R. Kendall, April 6: "The casing of the shaft 260 ft

WEST WHEEL JANE.—J. Tonkin, J. Smith, April 6: Our tin sale to-day has realized about \$544. Our tin prices are looking well, but the drop in the price of tin reduces the amount of our returns fall 70% per centum. There is but little change to report in our tin and tin ore last.

WEST WHEEL MARGARET.—Capts. Uren and White, April 9: Hallett's shaft is sinking below the 20 fm. level, by eight men, at 131. per fathom; the lodge here is 4 feet wide, of very peculiar character, shows 77. per fathom. This shaft is 100 fms. below the level, and in about two days it will drop to the 30 fm. level. The 20 fm. level is driving east of Hallett's shaft, by two men, at 55s. per fathom; the lodge here is 20 in. wide, and will about pay for driving. We have commenced to clear up some old workings on Wheel Mary lodge, about 100 fathoms west from Phillip's shaft to prove this lodge near the junction of the cross-course.

WHEEL AGAR.—W. Roberts, April 10: We have had an improvement here within the last day or two. In the 80, west of Windstow shaft, the lode is 3 ft. wide, producing 2 tons of ore per fm., with a prospect of further improvement. In the winz, sinking under the 70 the men have taken down a piece of lode, from which they have broken and sent to surface some 3 or 4 tons of ore; the lode in the winz is now 4 ft. wide, worth 4 tons per fm.

WHEEL ANNE.—H. B. Grose, April 10: The men are getting on well with the shallow adit, and the ground of the next promising description for the production of tin

WHEAL CREBOR.—Capt. Gifford, April 11: We are making good progress with the sinking of Cose's shaft, and hope to have it down to the 60 by the end of this month. The lode in bottom of the shaft is from 3½ to 4 ft. big, composed principally of capel and quartz, spotted with mundle and copper ore. In the 48 ass the lode is still disordered. I think there is another limb of the cross-course still ahead, as the end is letting on.

much water. In the 48 west, on the counter, or north side, the ground is easier for driving; the lode is small, with a stream of water coming from the country on the north side, which indicates that the main lode is further north. According to the section there are about 13 fms. more to drive to communicate with the old workings, which I think will be completed by the end of July, when we may reasonably expect to find a quantity of ore ground that can be taken away at a profit. We also expect to commence driving both east and west (at the 60) of Cock's shaft in the beginning of May.

WHEAL CUPID.—*H. Pryor*, April 6: The 65 to drive east of the engine-shaft, to

[illegible]

WHEEL EDWARD.—M. H. East, April 6: South Lode: In the 92 and 81 west the 50 is a alteration worth nothing. In the 71 west the lode is large, and is worth about 5 tons of ore per fathom. In the 61 west the lode has been referred to in my reports as wearing out, and the lode is getting more compact, which is a favorable indication. In the rise in back of this level the main lode is worth 2½ tons of ore per fathom. In the 50 west the ground is not quite so hard, consequently better progress is being made in driving. In the 61 east the lode is 2 ft. wide, nothing to value. In No. 2 rise, in back of the 50 east (tribute pitch), the lode is worth 4 tons of ore per fathom. In the 40 east

the lode is worth, from 4 to 5 tons per fm., and we have commenced a new rise in the back of this level, where the lode at present is worth 4 tons of good ore per fathom. North Lode: In the 52 west the ground is strongly mineralized; there is a branch in the footwall about 3 in. wide, consisting of apatite, quartz, mende, and rich spots of ore and there are some branches which contain rich oxide of copper.

WHEAL EMMA.—R. Dunstan, April 9: Our several turtow bargains continue open tribute ground, with a slight improvement in the 70 east, the 88, 46 east, and, and from the foot of the lode in the 70 I hope we shall soon see a decided improvement.

in that direction, in the 70 west we are cutting across the lode, but have not been able to speak of its character. The shaftmen are employed in cutting piate at 82. The tribute pitches continue to yield pretty good quantities; we expect our new sampling to be about 150 tons; our last was 135 tons. Our surface operations are progressing satisfactorily; the stamps are doing good duty, and are now let at 6s. in 17.

WHEEL GRENVILLE.—G. R. Oigers, April 6: There has been no lode taken in the engine-shaft this week. The lode in the 100 east is from 18 in. to 2 ft. wide, ore, lode, but there is a quantity of water flowing from it. The lode in the 100 west

getting vughy, hence we expect an improvement here, as it is getting under the old ground driven through in the upper levels. The lode in the 90 east is 18 in. wide, yielding 1½ ton to the fathom—a kindly lode. The lode in the 90 west, on the south pit is 14 in. wide, producing 1 ton to the fathom; there is more yellow ore getting into the lode, with a quantity of water, hence we are expecting an alteration for the better. There has been no lode taken down at the 90 west, on the north part, but which we calculate will yield ¾ ton to the fathom. The stope above this place is worth 10¢ per fm. and the other bargains are progressing satisfactorily.

WHEEL GEYSERS.—E. Rogers, J. Pope, April 11: Fisher's Lode: Annie's engine shaft is sinking by eight men, at 14¢ per fathom, and is down 6 fathoms 4 feet 6 inches below the 10 fathom level; the lode is standing to the south side, and will not be taken down until we reach the 20 fathom level. The 10 fathom level cast is driving at 8¢ per fathom; the lode is not so rich as it was, but at the present time will just pay for driving. The end west in this level is driving at 57¢. 6d. per fathom, and is opening good tribute ground; in this same level, one of the flat-roofed shafts, which has been driven from the top of the hill, is running at 10¢ per fathom, and poor; price for drift in this level is \$1.00 per cu yd.; the cost of this shaft; the lode is very rich, and the best grade, which is the most abundant, is at about 10¢ per ton, driving at 10¢ per fathom.

feeding a mile or more from the shore. The fish are abundant in the
27s. 6d. and 1 mile, but the winze in the bottom of the adit level the lode is 6 inches
unprofitable, sinking at 45s. per fm. Grylla whim-chatt is sinking at 40s. per fm.
the lode is worth 3s. per fm.—Georgia Lode: In the slope in the bottom of the 33rd
the lode is worth 25s. per fm., and stopping at 6l. per fm. In the back of this level the
In the slope working, worth on an average 16l. per fm.; stopping at 8l. 10s. per
In the tribute department there are twenty-five men employed, their tribute varies
from 6s. 8d. to 13. 4d. in 17, they paying all expenses. We sold on the 4th inst
Trefreie Snelling Company 1 ton 13 cwt. 3 qrs. 8 lbs. of tinstone at 45s. per ton,

WHEEL HARRIET.—S. Williams, April 6: In sinking the engine-shaft we making good progress. The lode in the 100 east end is worth for tin and copper 20¢. per fm. The lode in the stopes above the 100 is worth for tin 1 ton per fathom, 10¢. per fm. for copper ore. The lode in the 90 east end is divided with a horse of granite. The lode in the 80 east end is divided with a horse of granite. The stopes in the north and south parts are producing stones of ore, but not to value. The stopes in the 70 east end are producing stones of ore, but not to value. The stopes in the 60 east end are producing stones of ore, but not to value. The stopes in the 50 east end are producing stones of ore, but not to value. The stopes in the 40 east end are producing stones of ore, but not to value. The stopes in the 30 east end are producing stones of ore, but not to value. The stopes in the 20 east end are producing stones of ore, but not to value. The stopes in the 10 east end are producing stones of ore, but not to value. The stopes in the 0 east end are producing stones of ore, but not to value.

WHEEL HEARLE—*W. Wyeley*, April 5: We have commenced to drive the 100 ft. west; lots 1 ft. wide, worth 4¢ per fm. In the 90 west the lot is 6 ft. wide, worth 15¢ per fm. In the 80 west the lot is 2½ ft. wide, worth 15¢ per fm. No change in the 60 east, or the 80 cross-cut. The triangle plitches are looking very well throughout.

WHEAL KITTY (Lelant).—Wm. Williams, April 11: Gowna Lode: The lode is 30 ft. wide, dipping 30° to the east. The 30 end, west of Phillip's shaft, is sinking below the 30, is worth \$7. per ton. The 30 end, east of Phillip's shaft, is sinking below the 30, is worth \$7. per ton. The 30 end, west of Phillip's shaft, is sinking below the 30, is worth \$7. per ton. The 30 end, east of Phillip's shaft, is sinking below the 30, is worth \$7. per ton.

$\frac{d^2}{dt^2} \left(\frac{1}{r} \right) = -\frac{1}{r^3}$

been declared. The total for the quarter shows a satisfactory amount, and would have been considerably augmented had the price of tin been maintained. It will be seen that lead mines have returned a good sum, and it may be confidently anticipated that there will be a steady increase in this item, as we hear of many very promising sets being taken up from which large returns have been made, and only require the erection of machinery to again do so. The amount of tin, copper, and lead are necessarily stated in round numbers, several mines selling parcels of different metals which are not separately credited in the accounts.

At Dolcoath Mine meeting, on Monday, the accounts for Jan. and Feb. showed—Balance last audit, 447l. 15s. 11d.; copper ore sold, 130l. 13s. 4d.; tin ore sold, 10,801l. 6s. 10d.; carriage and sundries, 11l. 5s. 7d.;—11,901l. 13s. 8d.—Mine cost, merchants' bills, and sundries, 742l. 3s. 11d.; lord's dues, 446l. 15s.; poor rates, 607l.; leaving credit balance, 3247l. 14s. 9d. The profit on the two months' working was 2800l. 4s. 10d. A dividend of 2864l. (8s. per share) was declared, and 388l. 14s. 9d. carried to credit of next account. The agents reported that the south part of the mine contains a little good copper ore. The amount charged on these two months for materials and labour, for the new engine, &c., was 320l. The average price of tin sold from this mine, for the whole of the year 1860, was 80l. 4s., and for these two months 79l., making a difference of 1055l. on the credits in the present accounts.

Cefn Cwm Brynno Lead Mining Company (Cardiganshire) declared a dividend of 800l. (4l. per share) on April 4.

The Lisburne Mining Company declared an *extra* dividend, of 2l. per share, in March.

At Wheal Seton meeting, on Monday, the accounts showed—Balance last audit, 613l. 5s.; copper, tin, and arsenic sold from western ground and Trevarno, 2067l. 10s. 2d.; sundries, 2l. 15s. 7d.—2681l. 13s. 1d.—Mine cost, merchants' bills, and sundries, 2066l. 1s. 11d.; leaving credit balance, 627l. 11s. 10d. The profit on the two months' working was 11l. 5s. 3d.

At the United Mines meeting, on April 3, the accounts for Jan. and Feb. showed—Balance last audit, 909l. 14s. 1d.; mine cost, merchants' bills, and sundries, 6350l. 2s. 1d.—7259l. 16s. 2d.—Ore sold and sundries, 3834l. 13s. 1d.; leaving debit balance, 3455l. 3s. 1d. The loss on the two months' working was 2515l. 9s. A call of 5l. per share was made. Capt. John Davey reported on the operations. There is a large lode gone down in the bottom of the 220 for about 80 fathoms long, which will produce, he should think, about 12 tons of ore per fathom.

At Ashburton United Mines meeting, on April 5, the accounts showed a credit balance of 301l. 9s. 1d., after payment of all costs and liabilities to Feb. 28; and an estimate of the probable receipts and expenditure for the ensuing two months showed a balance in favour of the mine of 1220l. 10s. 6d. Messrs. J. Arnold, M. Whitwell, H. Gay, C. Godwin, W. Stickland, and G. S. Bryant, the retiring committee, were re-elected for the ensuing two months. Capt. W. Edwards' calculation on sampling in the ensuing two months 15 tons of tin, and the cost for the same period will be about 1200l. The number of hands employed on the mine are—on work 29 men and 6 boys, tribute 33 men and six boys, 1 pitman, 1 timberman, 2 smiths, 1 striker, 1 carpenter, 2 sawyers, 5 engine and machinemen, 7 trammers, fillers, and landers, 11 surface labourers—150.

At South Wheal Seton meeting, on April 4, the accounts showed a debit balance of 541l. 7s. 7d. A call of 3l. per share was made. Capt. Bath and Higgins reported the machinery and pit work to be in first-rate working condition, and "looking at the several lodes already discovered, and the efficient state we are now in for developing the mine, we hope shortly to have something of a very cheering character to lay before you. We shall have about 1000l. worth of spare pitwork to dispose of, which will come to the credit of the adventurers; it is more than probable we shall cut Marriott's lode within the next 10 fms. sinking."

At Bottle Hill Mine meeting, on Wednesday (Mr. Cavendish Bentinck in the chair), the accounts showed a credit balance of 378l. 19s. 2d., and a balance of assets over liabilities, 849l. 5s. 1d. The unprecedented severity of the weather had retarded them fully two months. Capt. Joseph Eddy reported that the completion of the stamps, new lead, drags, tramway, &c., had caused considerable outlay. The machinery, however, was now in good working order. Details will be found in another column.

At Great Retallack Mine meeting, on Wednesday (Mr. Thornthwaite in the chair), the accounts showed a credit balance of 363l. 6s. 7d., and a balance of assets over liabilities of 1289l. 19s. 4d. Captain W. H. Reynolds reported upon the various points of operation in the mine. Details will be found in another column.

At Penhaughe Mine meeting, on Thursday (Mr. Matthew Loom in the chair), the accounts showed—Balance last audit, 154l. 11s. 7d.; mine cost, six months ending Feb., 350l. 6s. 3d.; merchants' bills, 163l. 15s. 4d.—668l. 13s. 2d.—Calls received and sundries, 362l. 14s. 5d.; leaving debit balance, 305l. 18s. 9d. A call of 1s. 6d. per share was made. On April 24 the question of abandoning the mine will be considered. Capt. Knapp reported that he had no doubt of the ultimate success of the mine, the lode looking well; but he cannot recommend continuance with the present engine.

At Wheal Bassett and Grylls meeting, on March 28, the accounts for Nov., Dec., and Jan. showed—Balance last audit, 15l. 9s. 5d.; labour, 197l. 1s. 10d.; doctor's pence, 10l. 15s. 6d.; merchants' bills, 599l. 8s. 4d.—2117l. 5s. 2d.—By call, 500l.; tin sold (less lords' dues), 1443l. 13s. 11d.; Trevarno tin sold, 45l. 18s.; leaving debit balance, 1601l. 13s. 3d. A call of 10s. per share was made. The appointment of Capt. Stephen Treddinick by the committee as underground agent was confirmed. Capt. J. B. Wilkin, Walter Harris, and S. Treddinick reported:—"On the whole, we beg to state our prospects are highly encouraging, and we hope the mine will pay its own cost for the future. Number of persons employed:—Tutwork, 78 men and 1 boy; tributaries, 32 men; pitmen and enginemen, 9; smith and carpenters, 5 men and 1 boy; landers and fillers, 10 men; spallers 6 men, 3 girls; tin-dressers, 3 men, 21 boys, 28 girls; surfacemen, 12; masons, 5 men.—Total, 212.

At North Wheal Trelawny meeting, on April 3, the accounts for Oct., Nov., and Dec. showed the sales of lead ore 438l. 18s. 10d., and a reduction of the debit balance carried to next account to 148l. 11s. 7d. A call of 1s. per share was made. The report states that "the stone in the 64 produces 8 cwt. of lead per fm. The lode in the 65 produces 3 cwt. of lead per fm., and has been extended 85 fms. south of Lindoc's boundary; in this drive it has produced from 5 to 7 cwt. of lead per fm., and from its kindly appearance, and the easy ground, we are daily expecting an improvement. The stone in the back are producing 4 cwt. We recommend the engine-shaft being sunk 12 fms. deeper to intersect the cross-course, which will greatly assist us in sinking and cross-cutting the lode."

At the Vale of Towy meeting, yesterday (Mr. Hopgood in the chair), the accounts showed a credit balance of 445l. 18s. 8d. The Chairman stated that upon the three months' working there had been a diminution in the company's credit balance of about 400l., but of that sum about 220l. had been charged upon account of a new boiler, and about 60l. in small items, which should have been included in the last account, so that the actual loss upon the quarter had been about 100l. The agents' report stated that since the last general meeting they had sunk the engine-shaft 7 fathoms, making it 9 fms. 3 ft. below the 90. The two lodes had passed through the shaft into the footwall, and from what they could now see of the east lode, its position was vertical, thereby forming a junction with the main lode. The rock in the present bottom was formed into massive beds, was highly crystallized, and charged with considerable quantities of iron pyrites, with thin scales of mica along the lines of cleavage. Looking at the favourable position of the lode, and at the fact that there were stones of lead and large quantities of blende found therein, they thought they were on the eve of a great and important change downwards. Their present position was analogous to that of many of the great lead mines of the country, and if they were not successful there, some law that was not yet developed must intervene to prevent them. The report and accounts having been adopted, the proceedings terminated with a vote of thanks to the Chairman.

At Furze Hill Wood Consols meeting, on April 1 (Mr. J. W. Stephens in the chair), the accounts showed—Balance last audit, 60l. 16s. 7d.; mine cost and merchants' bills, three months ending Jan., 107l. 8s. 11d.—168l. 5s. 6d.—Calls received and sundries, 117l. 11s. 1d.; leaving debit balance, 50l. 14s. 5d. A call of 6d. per share was made. Capt. John Pomeroy reported that they had about 1000l. worth of tin at surface prepared for the stamps.

At the Tincroft Mine meeting (Mr. J. Field in the chair), the accounts for the 12 months ending December showed a profit of 1718l. 8s., out of which a dividend of 6s. per share was declared in February, and 1500l. added to the reserve fund. The total assets amounted to 4719l., consisting of 2170l. in the reserve fund, and 2247l. over and above the amount for which the company was liable. During the year 1300l. had been expended in improving and adding to the plant. The agent's report and the details of the meeting appear in another column.

At the North Robert Mine meeting, on Thursday (Mr. Procter in the chair), the accounts showed a balance of assets over liabilities of 751l. 19s. 5d. Details in another column.

At the Willow Bank Mine meeting, yesterday (Mr. J. Hutton in the chair), the accounts showed a balance of liabilities over assets up to the end of February of 1502l. 14s. 2d., besides which there was the March cost, which amounted to 129l. 15s. 2d. A call of 6d. per share was made. Favourable reports were read from the agents, and being that the operations in the western part of the mine should be prosecuted with vigour, the meeting was adjourned, in order to obtain the opinion of the shareholders generally as to what extent they would support that course.

At South Trevaun Mine meeting, on April 4, the accounts to end of January showed a debit balance of 848l. 19s. 9d., to meet which a call of 16s. 6d. per share was made. Application is to be made to the lords for a deed of the western ground, in accordance with the resolution passed at a special meeting, on Jan. 29, and the following gentlemen appointed as lessees:—Messrs. Michael Loom, R. T. Grylls, and C. R. Webb (the pursuer). Capt. S. Whitburn having been appointed resident agent, at 8l. 8s. per month, and two agents not being required, the services of Capt. John Rogers were dispensed with. Mr. R. T. Grylls, Capt. Michael Loom, and John Rogers were appointed the committee, and a vote of thanks given to the former committee for their services. In future Mr. Newton Greenwood, of Penryn, and Mr. Corin, of Gwennap, are to be the surgeons of the mine.

At Wendron Consols Mine meeting, on April 4, the accounts for Nov., Dec., and Jan. showed—Balance last audit, 331l. 15s. 6d.; sales of tin, 4625l. 3s. 6d.—4956l. 19s.—Labour cost, 3019l. 14s. 5d.; merchants, 1040l. 13s. 3d.; lords' dues, 2412l. 13s.; leaving to credit, 654l. 18s. 5d. Capt. J. Taylor, E. Jenkin, and W. Johns reported that the "new stamps at Slibney-Coverack, with twelve heads attached, work very well, also our new wheel at Treibubus; the expense of these and the new boiler to steam-engine has of necessity greatly increased the amount of our quarter's expenditure. We have 27 pitches working at tributes varying from 6s. to 13s. 4d. in 1l., at 60l. per ton for black tin. Number of men employed, 208; boys, 70; girls, 60; total 338 working in the mine, 338. We have sold during the quarter 64 tons 15 cwt. 2 qrs. 7 lbs. of black tin, amounting to 4525l. 3s. 6d. The prospects and condition of the mine were never so good as at present. We should have returned more tin had we not been compelled to put in the new wheel at Treibubus, which caused a suspension of those stamps for three weeks." A resolution was passed, that the London Office of Reference be abolished, and monthly reports, signed by the agents, sent to the Mining Journal.

At the Boscudine Mine meeting, on Monday (Mr. J. Morcom in the chair), the accounts showed a balance of assets over liabilities of 45l. 11s. 2d. The report of the agent (Capt. Vivian) recommended exclusive attention for the present to the south lode, as he did not hesitate to state that he believed it to be one of the most promising lodes in that or any other district at the same depth. The Chairman said that he had very little to add to the report of the agent, except to state that it proved that the views expressed at the last meeting had been carried out. He (the Chairman) now represented rather more than half the mine, and he had so good an opinion of the south lode that he was quite willing to give the support to developing that part of the property, and he thought the interest of shareholders would be benefited by pursuing that course. Mr. Field fully concurred in the Chairman's remarks, believing that it was quite possible that success might be obtained on the south lode sufficient to enable them

to eventually prosecute the north part of the mine. A resolution adopting the report and accounts having been passed, Mr. Morcom was requested to take proceedings for the recovery of all arrears of call which remained unpaid on April 30. A letter was then read from Major Carlyn relative to the continuance of operations on the north lode, when, after some discussion, the matter was referred to Messrs. Morcom, Field, and Dunford. A vote of thanks to the Chairman terminated the proceedings.

At the Lusanian Mine meeting, on Thursday (Mr. Henry in the chair), in consequence of the non-arrival of the balance of ore raised prior to the 30th of September last, without which the profits could not be determined, the meeting was adjourned till the 9th proximo.

LEADS, APRIL 11.—The Mining Market has been more animated than of late, and we trust that we may be able to report a continued increase in business.—Brom Consols, 15s.; Hebbden Moor, 15½ to 16½; Yorkshire, 15s. to 17s. 6d.; Wensleydale, 7s. 6d. to 9s.; North Hallenbeage, 40s.; East Releath, 15s. to 20s.—JOHN GLENDHILL AND CO.

THE METAL TRADE—PROSPECTIVE IMPROVEMENT.

The immediate revival in every branch of commerce connected with the metallurgical industries of the country may happily now be anticipated, the improving tone of the Iron Trade having already exhibited itself. Our correspondents in the several metallurgical centres report far more favourably upon the feeling manifested in commercial circles; the quarterly meeting of ironmasters at Birmingham was of a more animated character; the advices from America are more assuring, and the exports of Scotch pig during the past fortnight have been nearly 25 per cent. greater than in the corresponding period of last year. It is rather gratifying that otherwise that no particular rise has taken place in prices, as it gives evidence of legitimate improvement, and not as resulting from feverish excitement. Tin has evidently reached its lowest price, and from the limited stocks on hand, a gradual improvement is looked forward to; and in copper the movement in the standard has also an upward tendency. The reduction in the rate of discount to 5 per cent. has also inspired the speculative world with confidence, and the various joint-stock companies which have been brought forward in consequence of the brightening prospect of financial affairs have received ample support, the subscription for shares being very numerous.

COAL MARKET.—On Monday, 70 ships arrived; the business doing was of a fair average character, at last week's prices, for all descriptions of coal. Best house, 18s. to 18s. 6d.; seconds, 15s. 6d. to 16s. 6d.; Hartley's, 15s. 6d. to 17s.; manufacturers', 13s. to 15s.—On Wednesday, 64 ships arrived. The tone of the market was very firm for house coals, with a slight advance in the price of the second class sorts. Hartley's scarce, and 6d. per ton higher; manufacturers' without change; best house coals, 18s. to 18s. 6d.; seconds, 15s. 9d. to 16s. 9d.; Hartley's, 16s. to 17s. 6d.—On Friday, 14 arrivals. The market was quiet for all kinds of coal, at previous prices: 13 cargoes unsold; 125 ships at sea.

COAL IN FRANCE.—It appears from a document issued by the "Committee of Coal Pit Owners" that the extraction of coal in France in 1857 was 7,900,000 tons, from 62 coal fields. Of that quantity six fields yielded not less than 6,485,200 tons—viz., of the Loire, 2,242,600 tons; the Nord and Pas de Calais, 1,960,600 tons; Gard, 754,000 tons; Blanzay and Creuzot, 586,000 tons; the Allier, 484,500; and the Aveyron the rest. From 11 other districts quantities varying from 40,000 to 200,000 tons were extracted, and the quantity obtained from the other 45 was consequently but small. In 1852 the total extraction was only 4,900,000 tons, so that in the space of five years it has increased by 3,000,000 tons.

COLLECTING PRODUCTS FROM THE DISTILLATION OF COAL.—Professor Grace-Calvert, Manchester, provisionally specified an invention for collecting and saving certain products given off or emitted during the manufacture of coke. The invention may be classed under two heads; first, it consists in conducting the mixture of heated and ignited gaseous products obtained from the destructive distillation of coal in an oven, or in ovens of a peculiar construction underneath and around another oven or ovens, for the purpose of effecting by the heat thereof the distillation of the volatile gaseous liquid and solid products from the coal therein contained. In the oven the products of combustion given off during an ordinary coking operation in the furnace are not, as usual, allowed to escape by the opening at the top of the oven, but are conducted by a flue into passages under the second furnace, placed by the side of the first, and thence into a chimney. The coal in the second furnace, heated by the gases from the first furnace distills, and the products of distillation pass through an opening into a flue, and thence up a column fitted with perforated shelves, through and over which a thin stream of weak acid is allowed to percolate, in order to condense the ammoniacal products of the distillation. Secondly, in conducting the gases and other volatile products produced in the second oven through flues and columns of peculiar construction, as described above, into which diluted acids are introduced in a minute state of division, for the purpose of collecting the ammonia and other condensable products.

IRELAND'S PATENT UPPER TYLER FURNACE.—From the large proportion which the cost of fuel bears to the aggregate expenditure of the iron founder, much importance is naturally attached to such inventions as propose to secure economy in this direction. During the past two years several large founders have adopted the Patent Upper Tyler Furnace invented by Mr. Jonathan Ireland, of Manchester, and the greatest satisfaction appears in all cases to have been given. The saving of fuel varies from 35 to 45 per cent. This is effected principally by the application of the blast to two distinct parts of the furnace, so that the iron is first melted, as in the ordinary cupola, and then the heat is increased by the second row of tyleres acting upon it. As we stated in last week's Journal, the principle of the new furnace consists in the introduction of a number of small tyleres at a suitable height above the lower or ordinary tyleres. The small tyleres are connected with a vertical chamber, built in the brickwork of the furnace, and so constructed as to be fed with blast from the same pipes which supply the lower tyleres. The blast of the upper tyleres being regulated by dampers. The metal is brought into a fused state in a higher part of the furnace, and falling through the body of coke below becomes hotter and, consequently, more purified than by the ordinary process. As to the advantages of the furnace, it will be sufficient to refer to the testimony of Messrs. Milburn and Sons, of the Britannia Foundry, Staleybridge; these gentlemen declare that the saving of coke is fully equal to 40 per cent., and confirm the statement that the metal is much hotter, while the time taken in melting is much less. "We may mention," they add "that in an hour and five minutes from starting the fan we can now melt five tons, while before adopting your patent it took us fully an hour and three quarters. We have adapted our second cupola, and find it works as well as the first, and the engine can then be used as a boiler to be disposed of to secure the universal adoption of the invention."—"Is the same amount of iron obtained as from the ordinary cupola?" The notice in last week's Journal has caused that enquiry, and raised a doubt whether the augmentation of heat below the upper tyleres is not brought about at the expense of consuming a portion of the iron.

LONDON COAL DUTIES BILL.—In the House of Commons, petitions against the bill have been presented by Col. J. W. Patten, from owners of coal mines in Lancashire and Cheshire; by Mr. Crossley, from coal owners and occupiers of mines in South Yorkshire; by Mr. Locke, of Southwark; and by Sir M. Farquhar, from Hertford.

THE LIVERPOOL AND BIRKENHEAD SLATE AND SLATE COMPANY, at their meeting last week, declared a dividend of 6 per cent. This company, which is now in full work, so far as it has had time to fix up the necessary machinery, is developing the Braich Du Quarry, Festiniog, on a large scale; and, from the extent of the vein, the superior quality of the slate rock, and the unusually large size of the slabs, it is looked forward to as a desideratum to meet the increasing demand, already so far in excess of the supply.

ENGINEERING ENTERPRISE IN LINCOLNSHIRE.—Almost daily, during the past week, a locomotive traction-engine, manufactured by Messrs. Tuxford and Sons, engineers, has been running about the streets. One day it was used for bringing up two heavy truck loads of timber from Swinehead, turning the sharp curves in West-street and Bridge-street with the greatest facility. It runs remarkably quiet and still, and in vehicles as it readily as they would an ordinary wagon. The wheels are destitute of the cumbersome clips which are considered necessary in other traction-engines. By a simple contrivance the wheels can be thrown out of gear, and the engine can then be used as an ordinary steam thrashing and general purposes engine. It is considered a decided improvement upon any traction-engine ever before manufactured, and will doubtless greatly add to the high character which the enterprising firm of Tuxford have already obtained.—*Lincolnshire Guardian.*

LEAD ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Dyffryn	72	£13 2 0	Walker, Parker, & Co.
ditto	14	12 8 6	Newton, Keates, & Co.
ditto	14	12 8 6	Adam Eytton.
Dyffryn	38	12 17 0	Newton, Keates, & Co.
Llanerchymraur	20	13 18 6	Adam Eytton.
Keswick	26	12 15 6	Shield & Dinning.
Maesyrwdd	34½	13 17 0	Walker, Parker, & Co.
Costa Llys	30½	13 18 6	ditto
Deep Level	12	12 8 6	A. Courage & Co.
Brynford Hall	15	13 7 6	Newton, Keates, & Co.
Herward United	16	12 8 0	ditto
Speedwell	70	13 0 0	Walker, Parker, & Co.
Rhosamar	5	12 4 0	Newton, Keates, & Co.
Orsedd	4	13 2 0	Walker, Parker, & Co.
Brygwglog	16	13 2 0	ditto
Parys Mine	33	13 2 6	ditto
Grosvenor	5	13 10 0	A. Courage & Co.
Lady Elinor	10	13 11 0	Newton, Keates, & Co.
Trynwfyl	15	12 6 0	A. Eytton.
Flynnyplum	8	10 6 0	Walker, Parker, & Co.
Bryngwyn	1	10 0 0	A. Eytton.
North-lago	6	12 1 6	A. Courage & Co.
North Miners	70	12 6 0	Walker, Parker, & Co.
Isle of Man Mining Company	100	14 11 6	ditto
Cargill	89	12 19 0	Paither & Co.

BLEND.

Mines.	Tons.	Price per ton.	Purchasers.
Great Retallack	110	£3 0 0	Wright & Co.
ditto	800	1 12 0	Vivian & Sons.

BLACK TIN.

Mines.	Tons.	Price per ton.	Purchasers.
Charlestown Untd.	11 9 0 21	£66 10 0	Harvey & Co.
Guriyn	2 9 0 17	69 10 0	170 18 0—Chyndour.
W. Wh. Margaret.	0 18 1 6	52 19 6	—Boltho & Sons.
Durio	10 18 0 0	—	736 1 0—
Charlestown Untd.	20 4 1 16	66 10 0	679 12 1—Daubuz & Co.
Fed-an-drea	8 14 1 16	—	591 4 4—Bisace Co.
Wheal Hearn	4 17 2 16	—	322 5 0—
E. Wh. Lovell.	5 1 0 3	69 10 0	351 1 4—Carvedras.
Treworries	2 17 1 1	66 10 0	190 7 8—
Redmoor	4 10 0 0	68 2 6	—Calenick Co.

COPPER ORES.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cobre	96	14½	£12 2 0	Cobre	53	22½	£20 7 0
ditto	86	14	12 5 6	Knockmahon	71	—	10 15 0
ditto	82	14	12 3 0	ditto	66	—	9 5 0
ditto	91	14½	12 6 0	ditto	72	—	8 17 0
ditto	90	14	12 1 0	ditto	70	—	8 18 0
ditto	84	14½	12 7 6	ditto	65	—	8 5 6
ditto	49	14½	12 5 6	ditto	58	—	8 3 0
ditto	54	20½	18 7 0	Wheal Maria	58	22	20 12 6
ditto	47	20½	18 6 0	ditto	56	21½	20 7 0
ditto	100	13½	11 18 6	ditto	46	22	20 5 0
ditto	99	13½	12 1 6	ditto	31	22	20 10 0
ditto	85	13½	12 0 6	Ookip	1	32½	31 0 0
ditto	58	22½	20 1 0	Hunterdon	6	13½	11 15 0
ditto	37	22½	20 2 0	ditto	1	20½	18 19 0
ditto	50	22½	20 4 0				

TOTAL PRODUCE.

Cobre	679	£16,837 14 6	Ookip	1	£31 0 0
Knockmahon	400	3,628 4 6	Hunterdon	7	89 9 0
Wheal Maria	191	5,922 17 0			

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Companies.	Tons.	Amount.
Freeman and Co.	119	£1689 1 0
P. Grenfell and Sons	272½	4390 8 3
Sims, Williams, Nevill, and Co.	274½	4322 19 9
Vivian and Sons	335	4978 17 0
Williams, Foster, and Co.	698	7999 3 6
Mines Royal Co.	494½	597 14 3
F. Bankart	42½	511 1 8

Total 1786 £24,489 5 0

Copper ores for sale at Swansea, April 30—Knockmahon 591—Virgin Gordon 147—Laxey 111—Dyffryn 55—Hunterdon 44—Australian 33—Spanish 33—Corbey Dovey 21—Regulus 16—Australian 5.—Total, 1056 tons.

AVERAGES.

Produce.	Price.	Standard.
British	9½	£9 1 6
Foreign	15	1 0 0

Sale 14½ £13 14 0 £107 2 9

Totals—British, 400; Foreign, 1386=1786 tons (21 cwt.)

AVERAGES OF LAST SALE.

Produce.	Price.	Standard.
British	9½	£8 6 3
Foreign	23 1-16	21 4 0

Sale 19½ £18 7 0 £103

THE NERBUDDA COAL AND IRON COMPANY (LIMITED).

DIRECTORS.
HENRY HAYMEN, Esq., Clarendon-road, Kensington (Chairman).
F. E. CUTLER, Esq., Messrs. Cutler and Co., London and Bombay, 44, Mark-lane.
Major-General DOWLING (Bengal Army), 33, Gloucester-terrace, Hyde-park.
WILLIAM F. FOSTER, Esq., 16, Montague-square.
SAMPSON LLOYD FOSTER, Esq., Messrs. Fosters and Co., Staffordshire.
Capt. JOHN HEASLOP, Esq., 22, Villa, Twickenham.
SAMUEL JOHN WILDE, Esq., Bromley, Kent.
MANAGING AGENT IN INDIA—John Howard Blackwell, Esq. (late Mineral Viewer to the Bombay Government).

CONSULTING ENGINEER—John Fowler, Esq., C.E., F.R.S., F.G.S.
OFFICIAL AUDITORS—Messrs. Allison and Waddell, Public Accountants, 7a, Basinghall-street.
BANKERS—In London: Messrs. Smith, Payne, and Smiths.—In India: The Chartered Mercantile Bank of India, London, and China.
SOLICITORS—Messrs. Howard and Dollman, 141, Fenchurch-street.
SECRETARY—Herbert Heath, Esq.
OFFICES—9, BROAD STREET BUILDINGS, E.C.

Report and balance-sheet of the Nerbudda Coal and Iron Company (Limited), read and adopted at the FIRST ANNUAL MEETING of proprietors, held at 9, Broad-street-buildings, on the 4th April, 1861.

HENRY HAYMEN, Esq., Chairman of the company, in the chair.
The advertisement convening the meeting was read.
The directors' report having been read,
It was moved by the CHAIRMAN, seconded by SAMPSON LLOYD FOSTER, Esq., and carried unanimously:—

That the report of the directors, together with the accounts now submitted, be received and adopted.
It was moved by the CHAIRMAN, seconded by S. P. WILDE, Esq., and carried unanimously:—

That the deed of agreement between J. H. Blackwell, Esq., and the company be approved and ratified.
It was moved by the CHAIRMAN, seconded by Wm. F. FOSTER, Esq., and carried unanimously:—

That the qualification of the directors be increased to 100 shares.
It was moved by the CHAIRMAN, seconded by SAMPSON LLOYD FOSTER, Esq., and carried unanimously:—

That the requisite alterations (which were read) be made in the Articles of Association, in conformity with the foregoing resolution.
It was moved by the CHAIRMAN, seconded by S. J. WILDE, Esq., and carried, with one dissentient:—

That the directors of the company be authorised to issue debentures of the company for any sum not exceeding £20,000, in sums of not less than £50 each; such debentures to be receivable on payment of calls, or convertible into shares at the option of the holder. That the said debentures shall bear interest at a rate not exceeding 5 per cent. per annum, and (such as may exist at that time) be payable at the expiration of five years from the respective dates thereof.
It was moved by the CHAIRMAN, seconded by F. E. CUTLER, Esq., and carried unanimously:—

That for the purpose of providing the means of converting into shares the debentures of which the holders may exercise the option mentioned in the foregoing resolution, there be created new shares, not exceeding 4000 in number in the whole, and of the nominal value of £20 each.

That the present capital be in such event increased by the aggregate nominal amount of the shares so issued from time to time; such shares, with respect to the amount of any call that may be made, shall be deemed to be part of the ordinary capital of the company.
Signed, HENRY HAYMEN, Chairman.

It was moved by J. T. KING, Esq., and seconded by THOS. S. HAVESIDE, Esq.:—
That the thanks of this meeting be tendered to the Chairman and Directors for their able management of the affairs of the company.
Signed, HERBERT HEATH, Secy.

THE GLAN-Y-PWLL SLATE AND SLAB COMPANY (LIMITED).

Capital £20,000, in 4000 shares of £5 each.
Incorporated pursuant to the Joint-Stock Companies Act, 1856-57.
DIRECTORS.

Col. BUSH, 55, York-terrace, Regent's-park.
G. B. CARR, Esq., Merchant, 5, Lawrence Pountney-place, Cannon-street.
WILLIAM OGILVIE, Esq., Cushman-court, Old Broad-street, City.
JOSEPH JACKLIN, Esq., Brighton (late firm Pontifex and Jackson).
Lieut-Col. GEORGE O'BRYEN, Esq., Albion Tower, South Wood.
MORRIS ROBERTS, Esq., (firm of Roberts and Griffiths), Glamorgan Slate Works, Carnarvon.
BANKERS—The London and County Bank.
SOLICITORS—Messrs. Mayfield and Gedge, 4, Storey's-gate, Great George-st., Westminster.
BROKERS—Messrs. Hargreaves and Boscawell, 1, Threadneedle-street, London.
Messrs. J. J. Stephens and Son, Dublin.
Messrs. Brodie and Byrn, 1, Wyre Chambers, Liverpool.
Mr. Robert McEwen, Ducie-buildings, Bank-street, Exchange, Manchester.
MANAGER—Thomas Cooper Smith.

OFFICES—5, WARMORCOURT COURT, THROGMORTON STREET, CITY.

The object of this company is to work the Glan-y-Pwll Slate Quarries, situated in the parish of Festiniog, in the county of Merioneth, North Wales, and on the same mountain range as those magnificent quarries owned by Lord Palmerston, Messrs. Huddart and Mathews, and Mr. Holland. This sett adjoins their boundary, is a direct continuation of their seam, and consequently produces slate rock of precisely the same character and quality.

This property is held under lease for 40 years, on the following favourable conditions, viz.:—For every ton of slate, flag stone, or other stone, of the first quality, a royalty of 2s. 6d.; and for every ton of second or other slates a royalty of 1s. 3d., subject in the meantime to an annual rent of £10 merging into the royalties.

From the position of this sett it is, perhaps, unequalled in Wales in natural facilities. The workings are about 250 yards from the level, and the slate rock crops out from the top of the mountain. From the works an incline, at a comparatively small cost, may be laid down for the conveyance of slates in railway trucks direct to the main line, running within 100 yards of the mountain, to the quay at Port Madoc. The carriage is about 3s. 6d. per ton. Another very important advantage is the space afforded for the deposit of waste or debris sufficient for an unlimited period. The water-power is at all seasons ample for any work that may be required.

From an estimate recently made, it appears that slate rock may be broken down and manufactured for market at 21s. per ton; the market value is from 40s. to 50s. per ton. With a capital of £10,000 it is estimated that 600 tons of slate can be made per month, the value of which at 40s. per ton is £1200, or £14,400 per annum, which, allowing for working expenses, royalty, cartage, and agency, will yield a net profit of £4010, or at the rate of 40 per cent. These returns may be considerably increased as the operations extend. Mr. Robert Hunt, F.R.S., has recently made a calculation as to the average of the profits from the workings of slate quarries in Wales; he gives them at upwards of 50 per cent., and some of the large quarries, it is confidently affirmed, realise as much as 100 per cent. So great and increasing is the demand for slates, that the supply is not equal to half the demand.

The following quarries are said to return annual profits as under:—The Penrhyn from £100,000 to £120,000, the Llanberis from £70,000 to £80,000, Lord Palmerston's upwards of £30,000, and those adjacent to the Glan-y-Pwll in the same proportion.

The annexed reports are from good practical men of business; as extensive quarry managers, their testimony to the value of the Glan-y-Pwll sett, with regard to the many advantages already referred to, will be read with interest, and leave nothing to be urged by the directors.

Such is the confidence entertained of the value of this property, and the favourable conditions on which it is held, that some of the directors have individually taken, and now hold, an interest in it; and which, including the lease, the plant, the slates now on the quarry bank, and the benefit of the work already done, it has been agreed to purchase for £10,000. A most favourable arrangement has been made, by which £5000 only in cash will be required in instalments, and £5000 in shares of the company, as follows, viz.:—1000 shares paid to £2 per share, and 1000 shares to £5 per share.

The capital of the company will consist of £20,000, in 4000 shares of £5 each. Deposit £1 per share, 10s. on application and 10s. on allotment. No further payment on shares for six months.

The company having been completely registered with limited liability, no shareholder can, under any circumstances whatever, be made responsible for a greater amount than the shares to which he subscribes.

There are no special Articles of Association, Table B under the Joint-Stock Companies Act of Parliament having been adopted in its entirety.

To ensure subscribers from any loss, which often arises when a sufficient number of shares are not subscribed for, the directors bind themselves to return the whole of the deposit money, unless at least one-half of the shares be taken.

A considerable portion of the required capital has been already privately subscribed. Plans of the quarry, together with reports and samples of the slates, may be seen at the office of the company.

Applications for the remaining shares to be made in the enclosed form to the bankers, solicitors, brokers, and the manager, at the office of the company.

BELL BROTHERS beg to intimate that, having become SOLE LICENSEES in the United Kingdom of PROP. DEVILLE'S METHOD OF PRODUCING PURE ALUMINIUM, they are now in a POSITION to SUPPLY, from their works here, both this metal and its compound with copper, known under the name of ALUMINIUM BRONZE.—Newcastle-on-Tyne, September, 1860.

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I have written much, and contended for a long time past, that our public companies of all kinds ought to be subject to public audit.—W. F. SPACKMAN.
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The wealth which has from time to time been extracted from the Mountains of Wales has elevated many men from the lowest ranks of life to affluence and independence, created squires and baronets, and added grandeur to the equipages of noblemen.—PARRY.

We are glad to find our old friend coming so prominently forward as an advocate for investment in slate quarries, and we can have no hesitation in recommending his small pamphlet as well worthy of attention. The author, who has been long engaged in slate quarries, has in a few pages brought before the public the position of the slate trade, as one that recommends itself in the most tempting form to capitalists for investment. The leading features of this small pamphlet go to show that the demand for slate exceeds at the present time any former period; that the supply is utterly inefficient for the wants of the trade; that the prices are high beyond all precedent; that the profits realised by most of the large quarry proprietors are upwards of 50 per cent.; and that extensive opportunities exist for opening other large quarries, and increasing the supply; but the work should be read to be appreciated. We can in a great measure confirm the statements made by Mr. Smith from numerous correspondents who have from time to time induced us to draw attention to the wants of the trade, and the rare opportunity that exists for public companies to embark in this profitable branch of our commerce.—Mining Journal.

London: Printed and published by Ward, Brothers, 56, Bartholomew-close, E.C., and to be had at the author's, 5, Warrimor-court, Throgmorton-street.

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THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, APRIL 13, 1861.

The following are the particulars of the Sales of Copper Ore for the quarter ending March, 1861:—

Cornwall and Devon, at the Cornwall TicketingsTons 41,402£240,211 19 6

Foreign and Irish, at the Swansea Ticketings 7,775 114,544 16 0

Total 49,177 £354,756 15 6

Date. Av. standard. Prod. Price per ton. Tons of ore. Fine cop. Amount.

Jan. 3.....£133 15 7½ £6 19 0 2602 198 19 £18,115 11 6

" 10..... 130 11 6¾ 6 2 6 2685 182 14 16,468 1 0

" 17..... 132 13 5¾ 5 1 0 5198 307 4 26,419 1 0

" 24..... 130 6 6¼ 5 15 6 2327 192 7 13,450 8 0

" 31..... 130 8 6¾ 5 10 0 4015 253 11 22,025 10 0

Feb. 7..... 128 11 6¾ 5 17 0 3144 210 1 18,262 9 0

" 14..... 131 12 6¼ 5 15 6 4117 266 13 23,767 14 6

" 21..... 129 12 6¾ 5 10 6 2883 184 1 15,922 6 0

Mar. 7..... 126 9 7¾ 6 18 0 2893 220 10 19,926 1 6

" 14..... 130 8 6¾ 5 17 0 2975 196 0 17,376 2 0

" 21..... 131 17 6¾ 5 12 0 5056 320 14 28,387 17 6

" 28..... 130 14 6¼ 5 14 6 3507 227 5 20,060 17 6

Total £130 14 6¼ £5 16 0 41,402 2709 19 £240,211 19 6

Dec., 1860. 131 16 6¼ 5 17 0 45,207 2949 7 264,327 7 0

Quarter ending Sept., 1860 43,302 2929 13 252,883 12 0

Ditto June, 1860 45,133 2940 12 256,145 8 0

Total for the year 175,044 11829 16 £1,013,668 6 6

Showing a quarterly average of 43,761 2889 9 253,417 1 6

Corresponding quarter, March, 1860 47,941 2977 10 259,020 6 0

The quarter just ended shows, as we foretold, "A further falling off in the supply of ore and fine copper"—in fact, we have not had to report anything like it for a very considerable period; the result is, and must be, a diminution of dividends to the prosperous mines, and a prolonged period before the prospective ones will arrive at that desirable condition. This extends not only to the Cornwall and Devon mines, but also to foreign, Irish, and others, who sell at Swansea. The smelters, notwithstanding they have reduced the price of copper to the consumers full 47. 10s. per ton, pay the miner very nearly the same price and standard for their copper ore. Only 125 mines sent their ore to market this quarter, being 18 less than the preceding one. Devon Great Consols sent 801 tons less, realising 7127. 11s. under the amount of Dec. quarter, and equal to a 7½ dividend.

The Sales of Copper Ore at the Swansea Ticketings, during the quarter ending March, 1861, were as follows:—

Date. Tons of ore. Amount.

Jan. 8..... 2102 £31,346 11 0

Feb. 5..... 1779 28,953 3 6

" 19..... 1181 20,414 16 6

" 26..... 1409 14,901 16 6

March 26..... 1304 23,928 8 6

Total for the quarter 7775 £114,544 16 0

Quarter ending Dec. 9746 134,856 7 6

Ditto ending Sept. 9706 115,229 7 6

Ditto ending June..... 11347 164,908 5 0

Total for the year 38574 £529,938 16 0

Showing quarterly average 9643 132,384 14 0

Corresponding quarter, 1860 8859 151,977 0 6

The quarter just ended shows in all respects a very considerable deficiency, particularly Cobre and Cuba. The Irish mines show a great falling off, particularly Knockmahon, likewise in the regulus, British and Australian. We find, however, that Cobre had no less than 1187 tons for sale on Tuesday, and Knockmahon 400 tons.

MINES TRESPASSES BILL.

Complaints being frequently made that mines are being worked beyond their legitimate boundaries, and minerals abstracted therefrom to the prejudice of the owners, and that the mode of obtaining inspection to ascertain if the fact be so is inconvenient, expensive, fraught with delay, and attended with other inconveniences, a bill has been brought in by Mr. H. B. SHERIDAN and Mr. PAUL for providing a more easy and inexpensive process. The act is (clause 1) to be cited as "The Mines Trespasses Discovery Act, 1861." In the interpretation clause (clause 2) the term owner is defined to mean as well the owner and proprietor thereof, whether in possession or in remainder, reversion, or expectancy as the lessee or occupier thereof. Agent or manager means any person having the care or management on behalf of such owner. Mine means any place or underground work from which metallic ore, coal, fire-clay, limestone, stone, slate, or any mineral, metallic stone, or fossil substance of any kind, is or may be dug or obtained from the bowels of the earth. Minerals means all substances dug or obtained from the mine. Where there is reasonable

long since have held but for the circumstances before mentioned. A confident hope is now entertained, since the real causes of stagnation have been brought to light, that the undoubted valuable resources of this property will be thoroughly developed, and the fidelity of the numerous reports of its value and capabilities be fully established.

A NEW DISCOVERY IN GAS.

The invention of Mr. Webster, of the Phoenix Chemical Works, Birmingham, is at the present moment creating considerable excitement amongst the analytical chemists and scientific men of that borough, and we are, therefore, pleased in being able to publish some of the facts connected with experiments made during the present week, as we think they will prove highly interesting to our readers. Our correspondent attended on Monday evening a meeting held at the above works, at which a large number of gentlemen interested in the subject assembled. From the experiments presented he elicited the following facts:—That the oxy-carbon gas, patented by Mr. Webster, is a combination in certain proportions of oxygen with certain parts of carbon, the particulars of which he is not at liberty to make known till the publication of the specification, which will shortly appear in this Journal. The light produced by the oxy-carbon gas is one whose purity and brilliancy almost extinguishes the flame of an ordinary gaslight or candle, which looks smoky and opaque when brought into close proximity. The new light is as 16 to 1 of ordinary gaslight. By the application of a reflector the light is thrown to a distance of 20 yards with such effect that a person is enabled to read a letter or the smallest print by it. The radiating heat is not greater than that of ordinary gas, as the oxygen, being supplied from the inner portion of the flame, does not require to partake of the inner air of the room, so that the burner is not consumed or damaged by the action of the flame in any way, but is kept comparatively cool. The oxygen can be absorbed and re-burnt as frequently as desired by a chemical process altogether original, even increasing the value of its properties pecuniarily. The new gas is obtained at a less expense than the ordinary gas, because the oxygen is less expensive by 90 per cent. than that generally employed, since $\frac{1}{4}$ of oxygen would be found equal to $\frac{1}{2}$ of carbon, although securing a register by the photometer of 30 to 1 in favour of the oxy-carbon gas over that in general use. In ordinary gaslight shown to consume 6 feet per hour the register gives 15 candles, but in the oxy-carbon gas patented by Mr. Webster the register shown by the photometer is 240 candles.

Another and a peculiar feature of the new patent gas is that though the burner escapes injury from the flame, the light itself possesses a powerful heat in its centre, which will not only melt iron wire, but platinum and rubies; experiments demonstrated that iron wire twisted was instantly melted, and platinum almost as quickly, when placed in the flame emanating from a blow-pipe. To braziers, jewellers, solderers, &c., it would appear that this invention will be invaluable. Experiments were not only made with ordinary Argand burners, but with oil and paraffin lamps having wicks, each and all of which showed a similar register when the gas was applied. Mr. Webster also exhibited a lamp for lighthouses, to which he demonstrated by experiment his oxy-carbon was equally applicable. We understand that Mr. Wilkins, the engineer from Trinity House, London, has been down to Birmingham to witness Mr. Webster's experiments, and that arrangements are being made for lighting up with the oxy-carbon gas the lighthouses of that establishment. The apparatus of Mr. Webster is remarkably simple in its construction, so much so indeed that an ordinary person can generate the gas and arrange the light. The new gas is not explosive, and can be regulated to any extent, so as to adapt it to a private office or room, to a public building, to street lights, or lighthouses, and to railways and railway carriages. One light in a public building or manufactory will be equal to 16 ordinary gas lights; and the inexpensive character of its production will, it is asserted, reduce the expenditure of lighting at least 90 per cent. The gentlemen present appeared to be highly delighted with the successful experiments of Mr. Webster, and retired acknowledging that the light in question was all he had represented it to be, and thanking him for the demonstrations which he had kindly presented. We understand that a company is in the course of formation for the purpose of carrying out the principle of the new patent.

MANUFACTURE OF IRON AND STEEL—ELECTRICITY.

The existence of nitrogen in steel and malleable iron, and its appreciable effect upon the quality of the metal, is daily becoming more generally admitted, and the researches at present being made are likely, we think, to result in the introduction of vastly improved processes in their manufacture. In the *Mining Journal* of Feb. 9 we published an article describing the effect which Prof. Fleury, of New York, had discovered to be producible by the simultaneous application to molten iron of nitrogenised hydrogen (ammonia compounds), and static electricity; and, as will be seen from last week's Journal, Prof. Fleury's hypothesis was confirmed, so far as the value of the ammonia compounds is concerned, by Mr. Fremy's communication to the French Academy of Sciences. Yet this confirmation could scarcely be deemed requisite, since for a considerable period the existence of and necessity for nitrogen in steel and in malleable iron has from time to time been declared both by chemists and metallurgists; indeed, as Prof. Fleury states, so early as 1822 the presence of nitrogen in steel seems to have been suspected, since Prof. Faraday, in his communication to the Royal Institution in that year, remarks that it is a curious fact that when pure iron is substituted for steel the alloys formed are less subject to oxidation. Three per cent. of iridium and osmium, fused with some pure iron, gave a button which, when forged and polished, was exposed with many other pieces of iron, steel, and alloys to a moist atmosphere; it was the last of all showing any rust. The colour of this compound was distinctly blue, and had the property of becoming harder when heated to redness and quenched in a cold fluid. On observing this steel-like character the presence of carbon was suspected; none, however, was found, although carefully looked for. "It is not improbable," says Prof. Faraday, "that there may be other bodies besides charcoal capable of giving to iron the properties of steel."

In another column of this day's Journal we publish an interesting letter upon the subject from Prof. Fleury, in which his process is more fully described, and in reference to it we need only remark that he claims no new theory, the value of which might be questioned, but simply the economic application of discoveries which have already been proved to be effective, by which upon their original introduction could only be availed of at a cost which rendered them for all practical purposes valueless. The accumulation of impurities on the polar plate showed that the affinity of the iron to the impurities was transferred to the said plate, and it was for Prof. Fleury to discover how this action could be produced continuously, cheaply, and simply, and he certainly appears to have succeeded completely. Assuming that the enormous increase in value which has actually been obtained in America—from fourfold to fivefold—could not in all cases be relied upon, it is but fair to conclude that a considerable enhancement in value would be an invariable result, and when it is considered that the whole of the necessary apparatus can be supplied at from 80¢ to 200¢, and that the cost of the process, including wear of machinery, gas, &c., does not exceed 10s. or 12s. per ton, there would seem to be every inducement to the ironmasters of this country to have the process thoroughly tested as to its applicability to the treatment of the iron and iron ores of Great Britain.

MANUFACTURE OF IRON AND STEEL.—A series of improvements in the manufacture of iron and steel has been patented by Mr. J. G. Willans, of Belfast. His invention consists, in the first place, in casting pig or cast-iron from the blast-furnace in which it is produced from the ore in pig-beds formed of other material than the sand commonly used, such material being either iron ore, furnace slag, iron cinder, or other iron substance, aluminous materials, such as baked clay, shale, or slate minerals, containing less than half their weight of sand or silica in a free state, and covered with or manipulated with any of the above substances. The crushed material, whichever may be chosen, is used like ordinary sand; by this means the loss of iron in remelting, frequently caused by silicious sand, of which the pig bed is commonly formed, adhering to the cast-iron, is diminished. The second part of the invention comprises the mixing of bog-iron or peat, in the undried state, with puddled or other kind of steel (not being pig or cast-iron) in a granulated or divided state; also the moulding of the mixture, preparatory to its being calcined for remelting, refining, or further carbonising. Thirdly, he proposes the mixing of any kind of iron or steel in a granulated or divided state with coke, or with coal-tar, pitch, or any resinous or bituminous substance (with or without peat, or other carbonaceous matter intermixed), either separately, or mixed in such a manner and proportions that when calcined for remelting, refining, or carbonising, the metallic particles will be more or less fastened together by the coking properties of the carbonaceous matter made use of; so that if desired they may be remelted by the action of a blast with or without the combustion of other fuel added along therewith in the large fire or furnace; also the moulding any of the above metallic and carbonaceous mixtures preparatory to their being heated or coked. Lastly, he proposes the removal

of carbon from pig or cast-iron by blowing carbonic acid gas (obtained from limestone or after combustion of carbon or other artificial means) through the said metal in a molten state, or by applying the gas, with or without air or steam intermixed, to the pig or cast-iron in a granulated or divided state, at a heat insufficient to render the same fluid.

EXPLOSIONS OF FIRE-DAMP IN COLLIERIES.—At a late meeting of the Manchester Geological Society (Mr. E. W. Binney, F.R.S., F.G.S., in the chair), the Chairman said that he considered it his duty to publicly contradict any erroneous statement which he saw in print respecting fire-damp. Now, this invisible and intangible enemy is sufficiently dangerous to the coal miner, often coming suddenly upon him like a thief in the night, without any misleading as to where it is likely to be present or absent. In a work lately published in America, and having a considerable circulation in this country, at page 14, is the following:—"In mines of lignite and Cannel coal carbonic acid, or choke-damp, is almost the only gas present." Seams of Cannel coal, from being open-jointed no doubt, do sooner allow the fire-damp to be drained from them than from seams of ordinary coal. However, we who are acquainted with the Wigan district, where more Cannel is wrought than from any other mines in the world, on the one side, and those of Dukinfield on the other, know well that fire-damp is sadly too prevalent in them, and accordingly thorough and efficient ventilation, aided by the use of safety-lamps, is, or ought to be, in use in Cannel as well as coal mines, if explosions are to be prevented.

A Practical Treatise on Coal, Petroleum, and other Distilled Oils. By Abraham Gesner, M.D., F.G.S. Published by Baillière, Regent-street, London.

THE HUTTON COLLIERY EXPLOSION.—A very valuable collection of evidence bearing upon this subject has just been published (through Mr. G. Walker, of Durham) by Mr. T. C. MAYNARD, the coroner before whom the inquest upon the bodies of the sufferers was held. The information comprises the whole of the depositions taken before the coroner, and a vast number of extracts from the various journals circulating in the district. The documentary particulars are accompanied by three well-executed lithographed plans, showing the position of the boilers, fires, furnaces, &c., in the east and west minor pits, before and after the explosion respectively, and a plan of the ventilation, showing the quantity of air passing in the various ways, and the places where the several persons were killed. Mr. Maynard has been coroner for the district for over 55 years, and in the course of his investigations a large mass of very important scientific and practical information as to the correct mode of ventilating and working coal mines, and the proper use of the Davy lamp, with a due regard to the safety of the men employed therein, has been recorded, and it has long been a source of regret to him that this information has been comparatively lost to scientific and practical men, from not having been published in a concentrated form. The production of the book reflects the highest credit upon Mr. Maynard, and we doubt not that its utility will be duly appreciated.

COAL IN LIVERPOOL.—At the local Literary and Philosophical Society, Mr. Morton, F.G.S., read a paper on the "Coal Measures in the Neighbourhood of Liverpool, and the probability of their Extension beneath the Town." The author of the paper exhibited several sections, showing the position of the new red sandstone, in respect to the underlying coal formation, and came to the conclusions:—"1. That faults usually separate the Triassic and coal formations in the district around Liverpool.—2. That the coal measures were denuded principally after the deposition of the Trias.—3. That the middle productive coal measures underlie the Trias between the River Dee and Hyton. That coal should be reached at very moderate depths on both sides of the Mersey when brought near the surface by shafts. In addition to these favourable spots, shown in a section published in 1856, Eastham and the Dingle are places where collieries will be worked at no distant period." In the course of the discussion, Dr. Collingwood remarked that he was glad to discover that as time progressed, the period during which it was believed our coalfields would yield a supply was increased instead of being diminished. Twelve years ago the late eminent Dean Buckland had told him, with a sort of melancholy foreboding, that, according to the reckless manner in which coal was then being consumed, the supply would not last more than 500 years, at the end of which time America, with its vast coalfields, twelve times the extent of ours, would inevitably become the emporium of manufacture and centre of civilisation. But Mr. Hall has just informed us, as the result of more recent calculation, that our coal is sufficient to last us a thousand years.

REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 11.—Dullness still prevails, but upon the whole, perhaps, a better state of things may be reported, though very trivial. In the Iron Trade nothing calls for particular mention, while the Tin branch still occupies its heretofore unsatisfactory position; and in Coal a briskness is yet observable. In the absence of matters for special detail from the back country, however, some particulars as to the progress and position of the principal ports may be read with interest.

The monthly returns as to the trade of the port of Swansea, for the month of March, show a decrease of nearly 800 tons as compared with the corresponding period of last year, 352 vessel having cleared out, with a registered tonnage of 42,495, 20,338 tons being coasting, 15,758 tons being European, and 6377 tons beyond Europe trade. The month's receipts were 27,373, 2s. 6d., the expenditure 40¢, under that sum. In the first three months of the present year 1161 vessels entered the port, with a registered tonnage of 139,904. During the same time last year the number of vessels was 1028, and the tonnage 112,561, showing an augmentation in favour of the present year so far of 133 ships, and 29,343 tonnage. "This increase," remarks the *Cambrian*, "is very encouraging." At the same time, there is no doubt it would have been much greater had the weather been moderate, and had the facilities of the South Wales Railway been of a more liberal character. Since then, happily, the coal trade has been taken in hand by the Vale of New River Railway. Already this has obviated many delays, and we hope soon to find that under the new regime the shippers' wants will be better attended to, that all complaints will be obviated, and that the steam coal trade will thereby be materially increased at Swansea." At the monthly meeting of the Harbour Trust, on Monday, among other business the following resolutions were passed:—"That the clerk be directed to oppose that clause in the South Wales Railway Company's bill by which the company proposes to take power to appoint an officer, with power to regulate the removal of vessels at the coal drops, and that, if necessary, the Chairman be empowered to send petitions praying to be heard before the Committee on the bill against such clause." "That unless a satisfactory arrangement at the proposed meeting in London is made with the South Wales Railway Company, for payment of the amounts due to the trustees, the clerk be authorised to take legal proceedings for the recovery of the same." Last week's exports amounted to 6000 tons of coal and 1300 tons of pig-iron. Among other cargoes there arrived—From Jersey, 15 packages of old yellow metal sheathing, for Vivian and Sons; and from Almeria, 370 tons of copper ore, for H. Bath and Son, and 285 tons to order. The demand for vessels is good, and freights tend upwards, especially for the Mediterranean.

The exports of iron during last week from Cardiff were small. They comprised—For Vigo, 3 tons bar, by Insole and Son; for Trieste, 204 tons bar and bundle, by W. Crawshaw; for Malta, 240 tons bar and bundle, by W. Crawshaw; for Nantes, 153 tons bar, by T. Hertz; for Bordeaux, 175 tons bar and bolt, by Guest and Co.; for Amsterdam, 128 tons bar, by A. Hill and 82 tons sheet, by Booker and Co. The coal sent foreign was larger quantity than for some time past, amounting to 4000 and 5000 tons per day. Amongst the cargoes worth enumerating are the following: 500 tons, by Powell and Son, for Genoa; 570 tons, by the Rhymney Co., for Malta; 608 tons, by Page and Co., for Tarragona; 668 tons, by Powell and Son, for Venice; 542 tons, by Insole and Son, for Alicante; 728 tons, by the Aberdare Company, for Quebec; 839 tons, by Powell and Son, for Quebec; 667 tons, by Powell and Son, for Corfu; 623 tons, by D. Jones and Co., for Alexandria; 630 tons, for Cape Verde, 573 tons and 510 tons, for Batoum, by Nixon and Co.; 645 tons for Havre, 620 tons for Trebizonde, and 520 tons for Genoa, by H. Worms; 600 tons, by D. Jones and Co., for Quebec; 602 tons, by Powell and Son, for Lyons; 500 tons, by the Rhymney Company, for Malta; 473 tons, by Cory Brothers, for Quebec, and 430 tons for Alicante; 536 tons, by Powell and Son, for France; 704 tons, by Heath and Co., for Quebec; 622 tons, by Heath and Co., for Barcelona; 511 tons, by D. Davis, for Cadix; 573 tons, by Cory, for Barcelona; 491 tons, by Owen and Downing, for Genoa. Of patent fuel, 139 tons were dispatched to Valencia by Cory. While speaking of Cardiff, where the measures for quick dispatch are well known, allusion may be made to the new Penarth Harbour. The facilities for business appear to be quite on a par there with those provided at the Bute Docks. An instance of this is evidenced in the fact that a few days since a steamer belonging to Messrs. Powell entered the harbour, and in twelve hours afterwards steamed out laden with no less than 700 tons of coal. For a new dock this is a very satisfactory result.

Trade matters slack at Newport. The merchants still cling to the hope that the amalgamation between the Monmouthshire and West Midland Railway Companies will be carried into effect, and that the port may become the place of import and export for the joint concern. A special meeting of the Town Council was held on Tuesday, when petitions to the Houses of Parliament were adopted in favour of the London, Buckinghamshire, and West Midland Junction Railway. The scheme provides for the necessary completion of the West Midland system at its eastern end, and a direct communication between the town of Newport and district, Aberdare, Merthyr, Brecon, &c., and the metropolis. The bill has passed the standing orders of both Houses. The town council, who moved the adoption of the petition, Mr. Lyne, gave two reasons for his support; one, his belief that the welfare of the district mainly depended upon the carrying out of the project; and the other, he felt persuaded that the Great Western and South Wales Companies would be compelled to put down a narrow-gauge rail, or they would have no chance in the conveyance of traffic from South Wales, and their position would be even worse than at present.

The directors of the Monmouthshire Railway and Canal Company have examined the accounts certified by the auditor to Dec. 31, 1860, and fixed the dividend to be declared at their half-yearly meeting, on May 16, at the rate of 6 per cent. per annum, leaving a balance in hand of 718¢, to the credit of the next half-year, after placing to the reserved account 978¢, to make up the account of 10,000¢.

As in Swansea, Cardiff, and Newport, meetings continue to be held in various towns, and petitions adopted in support of the bill now pending in Parliament to authorise the South Wales Railway Company to purchase and possess their own engines and rolling stock. The petitions generally are numerous signed by the trading community. Should the bill pass, the South Wales Company, whose agents certainly put before the public a very strong case, will be relieved in a great measure from the control of the Great Western, and be enabled to furnish freights and traders with ample and proper appliances for the carriage of merchandise and minerals, while it is hoped the accommodation for passengers' conveyance will also be altered for the better, that being as defective as the other department. A subscription has been set on foot along the line to represent the freights and the public by counsel, as distinct from the two companies. A special jury case was commenced at Gloucester, before Mr. Justice Blackburn, on Saturday. The plaintiff was Mr. Timothy Bennett, an iron and coal proprietor, of Mithelnden, Dean Forest, and the defendant was Mr. White, a coal lessee, of Nailbridge. The action was brought for breach of covenant. According to the statement of the plaintiff's counsel, Mr. Bennett had a coal pit called Penswell, and was driving a road from the bottom of it to an iron mine he had near it. Defendant had some coal in the neighbourhood, higher up than Penswell, but it was liable to flood, and to pump it would have involved a ruinous cost. He, therefore, entered into a covenant with the plaintiff, and, for being allowed to make a cut out from his coal into the roadway, drain his works, and

get his coal up through Penswell shaft, he undertook to deliver 3 tons of coal daily into Mr. Bennett's trucks, to keep the steam-engine at Penswell at work, and to cleanse the roadway. These conditions, however, it was alleged, had not been fulfilled. Several pleas were put forward by the defendant, who paid 5¢. into court. After two days' trial, a verdict was found for the defendant.

Yesterday week, at the Bristol Assizes, a cause, *Gariand v. Long and Others*, came before Mr. Baron Martin, bearing upon the risks and dangers of mining in populous inhabited districts. The action was brought by Miss Mary Ann Gariand to recover 5000¢ from the Pennywell-road Coal Company for injuries sustained by certain houses in Armoury-square, Bristol, caused, as alleged, by the defendants mining for coal near and under that part of the city. The defendants in 1833 sunk a shaft near the Armoury, and a second in 1855. They had worked from veins in the locality, and for some time past the houses in Armoury-square had cracked, the doors jammed tight together, and the land sunk. Proof had been obtained that all this was the result of the workings underneath, while the company had from time to time paid for repairing the property. It transpired that six other actions were ready to be brought under similar circumstances. His Lordship recommended a settlement, observing that if the colliery were worth working it would be to the interest of the defendants to buy the property. Ultimately, without going into evidence, a verdict was taken for the plaintiff for 40s., subject to terms agreed on between the parties. Mr. George Chick, one of the company, was represented by separate counsel, and complained of the mismanagement of the works by his partners. No less than seven gentlemen of the long robe appeared in the case—three for the plaintiff, two for the company, and two for Mr. Chick.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 11.—The meetings of the Iron Trade held at Wolverhampton yesterday, and to-day at Birmingham, have presented a shade of improvement in the feeling of the trade, without, however, much substantial change for the better. People have been living so long on hope that they desire a change of diet; and as most of the materials out of which "encouraging prospects" are concocted have been repeatedly hashed up in a great variety of forms, that dish is getting very unpalatable, and there is a strong craving for a substantial course of "larger orders and higher prices." A good deal of Pig-Iron has been sold, which might have been expected, as manufacturers of finished iron have been abstaining from buying for some time; but prices are no better, and, indeed, are lower than three months ago. It is probable that more blast-furnaces will be blown out in the district; and it is generally acknowledged that except in the case of makers peculiarly well situated with regard to the price of the raw materials, present rates yield no profit, if they do not involve a loss. For Finished Iron no real improvement can be reported. A few makers are pretty well off for orders, and get good prices; but most are very slack, and have to sell at very low rates. Considerable quantities of South Wales bars coming here for use in the local manufactures are described as of fair quality, and are delivered at prices below those at which the commonest South or North Staffordshire iron can be produced. Mr. S. Griffiths, in his "Iron Trade Circular," states that 20,000 tons of rails are required by a foreign Government, 5500 tons to be delivered during the next fifteen months, the remainder at later dates. It is also stated that 1000 tons of Wiltshire pig-iron have been sold for the French market. It is worthy of remark that the export of hardware, machinery, and coal to France during the three months ending February, shows a very large increase as compared with the corresponding months ending February, 1860.

The strike of colliers at the Woolley Colliery, near Barnsley, is affecting this immediate locality. A number of men went there from Bilston, where employment is very short, owing to several failures, but were met at the colliery by a strong force of turn-outs, who persuaded them to return, and paid their fare, at any rate part of the way to Bilston. It appears, however, that the leaders in this persuasion have been committed for trial to the York Assizes for intimidation, on account of the charge they took in inducing the Bilston men to return, some of the latter stating that they had been back from fear of those on strike. Mr. James Hudson, manager of the Woolley Colliery, in a letter to the *Birmingham Daily Post*, states that some Bilston men are now employed at that colliery, and that others are about to go there from the same place. There can be no doubt that the number of men in this district to whom regular work at moderate wages would be a great boon is very considerable, especially amongst the colliers now, as the demand for coal for domestic purposes has considerably diminished during the last fortnight.

On Wednesday morning week a shocking accident took place at the Hookery Colliery, Bromley, Brierley Hill. Some repairs were being done to the shaft of one of the pits, at which a sinker and two young men, named Benjamin Bowen and John Smallman, were engaged. It was the duty of the two young men to attend upon the sinker. They entered the skip for the purpose of descending the shaft, having previously placed therein two buckets of water to be taken down to the sinker, and were immediately lowered. In their descent they fell from the skip to bottom, a fearful depth, and were literally smashed to atoms. Death was, of course, instantaneous. It is supposed that the shaft had become impregnated with choke damp, which so overpowered the young men that they became insensible and fell out of the skip. This view rested upon the fact that none of the water in the buckets was split, and experiments made by Mr. Baker, the Government Inspector, showed, as may be imagined, that a slight disturbance of the level position of the skip by coming in contact with the side of the shaft would have split the water.

People do strangely misread and misapprehend statements sometimes. In allusion to a letter attacking Mr. Baker, the Government Inspector of this district, for the evidence he gave in a case at the Assizes at Stafford, it was urged in this letter that he was not open to censure for not changing the ordinary mode of winding here, since his predecessors, who were assumed to be unimpeached and unimpeachable, had permitted its continuance. Yet your *Dudley* correspondent, "Justice," whose similarity to that goddess appears to be only in his obduracy of vision, treats the remarks as an attack on those who are really assumed in the statement impugned to be above question, and he particularly alludes to Mr. Brough. If he read this letter during the period of office of the latter gentleman he could scarcely entertain the idea that it could convey any sentiment hostile to the high and unquestionable reputation of the present Inspector for the western district. He goes on to say that Mr. Brough on two occasions saved engineers from conviction by saying that the apparatus was insufficient for safety. But, in those cases the nature of the apparatus had something to do with the cause of the accident, whilst in the case in which Mr. Baker gave evidence the apparatus fulfilled its object, and the accident was caused by the engineers wrongly going away from his engine whilst the descent was coming up. Had Mr. Baker offered a suggestion in the interest of the accused which had really nothing to do with his guilt or innocence, he would have been acting as the advocate of the prisoner, not as an impartial witness. It is no part of the object of this letter to defend the present Government Inspector, who will be as liable to hostile criticism in any manly if it should be called for; but when advantage is taken of an attack in the House of Commons to base censure on false grounds, it is the duty of everyone who knows the facts to state them, and to show the groundlessness of the charges.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

APRIL 10.—The general tone of the Iron Trade continues dull and unsatisfactory, and the first quarterly meeting held at Birmingham to-day does not appear to have afforded much hope of an improvement, although those who were present incline to the belief that trade is a shade better since the holding of the preliminary meeting. The aspect of business is exceedingly quiet. The latest American advices are, on the whole, more favourable, as they indicate a probability that the Morrill Tariff Bill will be either repealed or greatly modified. However, at the present freights and rates for iron, a larger trade is being done with the States than would be generally supposed. The steel and cutlery trades at Sheffield are very depressed, and few manufacturers remember the period when the general trade of the town was so unsatisfactory. There have been several contracts given out for rails and railway ironwork, which has made this department of business more active than others, but manufacturers generally complain of a want of orders, and of the prevalence to a great extent of underselling.

The Coal Trade is duller than usual, owing to the depressed condition of the iron trade, and the prevalence of a large strike of operatives in Lancashire, exceeding, we believe, 30,000 persons. The export trade, however, is largely on the increase, and, as we have intimated on several previous occasions, the increase from the South Yorkshire district has been immense, owing to the amalgamation of the South Yorkshire Railway with the Manchester, Sheffield, and Lincolnshire. The demand from the markets to which these lines have access is exhibiting an enormous increase, simply because coals can now be got to their destination at a rate much cheaper than heretofore. This is now especially the case with regard to the metropolis, as will be seen by the following returns, which have just been issued:—During the quarter ending March 31 the enormous quantity of 451,210 tons 9 cwt. of coal were carried to the metropolis by the various railway companies, which the Great Northern took 168,054 tons 10 cwt., of this quantity the South Yorkshire coal field contributed a vast proportion. Of Silkestone coals alone 50,742 tons 1 cwt. were forwarded,—20,650 tons 13 cwt. in March, 15,423 tons 12 cwt. in February, and 14,668 tons 16 cwt. in January, the principal pits being thus represented:—The Wharfedale Coal Company, 21,989 tons 6 cwt.; Clarke's, 10,529 tons 12 cwt.; Newton and Co., 6349 tons 9 cwt.; Smith and Co., 5085 tons 5 cwt.; Cooper and Co., 3745 tons 9 cwt.; Charlesworth's, 1471 tons 2 cwt.

The railway engine-drivers connected with the various lines are about to hold another meeting, for the purpose of pressing their movement for a Ten Hours Bill. Some gossip has been created this week, owing to the fall in the traffic of the Midland line, which has had the effect of reducing the price of stock 10 per cent. The depression has not been owing to a falling off in the receipts, but from the enormously large traffic at this particular time last year. Taking the traffic for the last twelve weeks of this as compared with the same period last year, the increase has been 16,000¢.

On Friday there was a trial of Messrs. Wright and Son's patent safety-cage for miners at the Wentworth Colliery, Birstal, Yorkshire, the property of Mr. George Ellison. The apparatus is designed to avoid accident in the event of the breaking of a rope, and it is worked by means of levers, which stop the cage the moment the rope breaks, and it is constructed to sustain a sufficient weight without falling down the mine. The trial was satisfactory, and the apparatus was considered successful. There was a large attendance of gentlemen interested in mining, amongst whom were the following:—Messrs. John and Robert Holdway, Street and Colliery, Gildersome; John and Joseph Hall, Brundell Colliery, Brundell; Robert Rhodes, colliery owner, Birstal; A. O. Gill, mineral surveyor, Dewsbury;—Child, surveyor, Wakefield; Robert Clayton, Railway Foundry, Bradford; Joseph Byles, Greenwood Mill, Bradford; Thos. Myers, Bradford;—Fernandes, colliery owner, Howley Park; Jonathan Simkin, Stewart Oakwell Colliery; Josh. Parker, agent, Newmarket Colliery; George Ellison, Birkenshaw; J. Brooksbank, general viewer of collieries; Israel Hall, agent, Birkenshaw; Wm. Dibb, Adwaston; W. Bower, West Ardsley Coal Company; John Taylor, manufacturer, Beaulieu.

Although Derbyshire will not have to boast of a Faggon as the designer of the iron-work of that railway, Mr. Barrow has received the contract, which is said to amount to 60,000¢. No doubt the immense resources of the Staveley works will be brought into requisition, and we make no doubt the work will be creditably executed. Whilst alluding to Staveley, we may just mention that Mr. Barrow, the proprietor of the works, is about to equip a company of artillery volunteers, besides presenting the intended band of the corps with a complete set of brass instruments.

An application was made on Tuesday last to the Court of Quarter Sessions at Not-

tingham, for leave to erect gunpowder mills at Gresley, on behalf of Mr. Sharpe, a large manufacturer in Saxony. There is no gunpowder manufacture in Nottingham, or Derbyshire; and, as a considerable quantity is used by collieries, it would be a great convenience to them, as well as a matter of great economy, if they could purchase it within a moderate distance. The works would occupy 79 acres. The application was adjourned to give time to seek notices on the owners of the soil adjoining the proposed works.

Mr. Robert Cook, of Hathersage, has commenced the sinking of a colliery in the Peak of Derbyshire, from which he hopes to supply the Derbyshire lead mines with coals at a much less rate than they can now be obtained, on account of the distance and the cost of conveyance.

The charge of intimidation preferred by the proprietors of the Woolley Colliery against seven of their late turnouts was resumed at the Barnsley Court House on Friday, and after an examination of several hours it resulted in the commitment of the prisoners for trial at the Assizes. Mr. Middleton, the barrister, appeared for the prosecutors, and Mr. Roberts for the defendants. The prosecution wished to establish the fact in Court that the Miners' Union had found the money which was paid for the return of the Staffordshire men to Bilston, but as all documents and books of the Union were not to be found this point failed. However, the magistrates said there was sufficient evidence to justify the case being sent to a higher court, and they were accordingly committed, and bail refused. As the men will have to remain in prison until July, awaiting their trial, strong efforts are being made to obtain money to defray the cost of an application to a Judge in chambers.

Mr. James Hudson, manager to the Woolley Coal Company, Yorkshire, writes—"My attention has been called to an article headed 'Strange Treatment of Colliers,' the facts of the case not being properly stated. In the first place, the men formerly employed not being 'turn-outs,' having given their usual notice, and left the colliery. Secondly, the Miners' Union or their agents only paid the men's fares in no case further than Derby, and by a reference to the paper I forward you it will be seen by you that the ringleaders in doing so have been committed to York Assizes for trial for the share they had in causing the men to return to Bilston. I may further state that at the present time the owners of the colliery have not employed from Bilston and neighbourhood, and intend to make up their usual complement of men from the same district, the men there now employed being quite satisfied with the prices now paid.—P.S. The men that were formerly taken down stated as their reason for not staying that they were afraid, as you will see by their evidence."

We understand the colliers employed at the works of Messrs. Yates, Carrington, and Co., struck work on Thursday last, owing to a difference existing between them and the firm as to the number of hours they should work per day. It is said the men object to work eleven hours per day, and that they are determined not to work more than nine and a half per day. A meeting is to be held for the purpose of laying their grievance before the public.

The Derbyshire coroners have objected to the salaries offered them by the magistrates under the new Act, and the question of the amount of remuneration which they are to receive in lieu of fees is now to be settled between them and the Home Secretary.

The late wet season has had the effect of filling the workings of most of the Derbyshire lead mines, the working of which has in consequence been retarded, but as there is a prospect of a dry season work will soon be resumed.

The Mill Dam Company are not yet out of the meshes of the unfortunate law proceedings, and although an engineer has reported upon the dispute, and presented his report to the Vice-Chancellor, there is to be an action at law to try the question at issue—the right to the use of the swale.

The North Derbyshire Mine has not been in work, owing to the heavy rains, but sinking operations will commence immediately, if they are not already begun, and it is anticipated that in about ten weeks the shaft will be sunk down to the vein.

The report given in the Journal of March 16 of the case of the Great Hucklow and Mill Dam Companies, heard before Vice-Chancellor Stuart, was so contrary to the expectations the shareholders of the latter company had been led to anticipate, that immediately afterwards articles appeared in the local papers, containing strictures on the conduct of the directors, and requiring explanations. The shareholders assert that one of the rules of the company provides that there shall annually be held a general meeting of the shareholders, at which meeting a statement of the assets and liabilities of the mine shall be laid before the company, with vouchers for all payments, and signed by the Chairman. That the last general meeting was held in the month of February, 1860, but the statement of accounts made out and produced at it (which was not signed by the Chairman, or in any other way authenticated) was so unintelligible and unsatisfactory that a resolution was passed, that in future the yearly accounts should be printed and circulated among the shareholders at least fourteen days before the annual meeting. But although nearly two months have elapsed since the annual meeting should have been held this year, no accounts have yet been sent, or notice given to the shareholders of the intention of the directors to hold it; notwithstanding the grave suspicions the omission or refusal to hold it must necessarily give rise to in the minds of the shareholders, as well as of the public. If the directors are influenced by an apprehension that a disclosure of the affairs of the company would affect the price of the shares in the market, they may be assured that any attempt at concealment will have a far more prejudicial effect than a plain, intelligible, honest statement could possibly have. The accounts presented at the last meeting, on Feb. 24, 1860, stated the liabilities of the company then to be 746l. 14s. 11d.; but the call of 10s. per share ordered that day, and payable by two instalments, on April 20 and June 20 last, added to the price obtained for ore got during last year, when the mine was reported to be so rich, should leave a very considerable sum in the hands of the directors, increased also by the arrears of former calls, stated in the last account at 280l. 8s., the payment of which, it is presumed, the directors have thought it their duty to enforce.

SLATE QUARRYING AS AN INVESTMENT.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Attention has of late been drawn to the subject of Slate Quarrying, and much has been said, and truly so, in its favour as a profitable investment. Veins for miles in extent have been named which would return immeasurable riches were the good people of our island sufficiently alive to their own interests as to find capital to work them. Profits of 30 to 40 per cent. are said to be derived as easily and as certain as the 3 per cent. upon Consols. What a pity it is that money is requisite even before the richest mineral wealth can be turned to account, or who would not possess a second Penrhyn Quarry in full working order?

Now, although we entirely agree that a good slate quarry is really a very good thing, yet we dissent *in toto* from the idea that good quarries are to be acquired with the ease and facility which some people seem to fancy. It is nothing to the purpose that because blue seams are abundant in many parts of Wales that all may be worked to a profit. Nothing was ever further from the real facts of the case. Much has been said of the Festiniog vein, and the opportunity it affords for developing its great resources. This, if not altogether erroneous, is most egregiously exaggerated, for we scarcely know a spot along its course offering an inducement for the purpose intended.

Gold may be purchased too dear, and so may slate; and we opine that it would not prove very satisfactory when it was found, too late, that 20s. worth of slate had cost to raise 3l. sterling. But this is not uncommonly the case when inexperienced persons undertake a task for which they are wholly incompetent. The dip of the veins and craggy top, want of water-power and space for refuse, together with a dozen other material drawbacks and disadvantages, which never enter the minds of those sanguine personages who persuade themselves that "all is gold that glitters," all tend to render competition with *bona fide* undertakings entirely out of the question. Indeed, we may say that this style of advocates do more harm to the cause of mineral development than any other matter or thing whatever; for failure follows ignorance, and the capitalist is deceived, disappointed, and disgusted as a natural corollary. Granted, then, that any given vein runs some miles through a certain district of country, how much, we again ask, of its whole course is available for the purpose of opening a quarry with any chance of paying its own expenses? Suitable spots possessing all the requisites are, like "angels' visits, few and far between." We are not of those who would wish to stop enterprise where it can be legitimately shown a chance of success exists; but it is our duty to raise a voice of caution when we see whole districts indiscriminately recommended to the public, where profitable working veins are not known to exist. We are anxious to see this branch of industry in a state to supply the ever-increasing demand for its produce; but this would not be accomplished by wasting capital upon places that do not possess the necessary attributes, and which cannot be dispensed with in a paying concern. There is, doubtless, plenty of slate vein, of one sort or other, in North Wales; but what we maintain is, that a very little of it is in a position or of such quality as could be profitably worked; hence such properties as do possess the requisite advantages are excessively valuable. We took occasion last autumn to draw attention to an undertaking which is believed to be in the latter category, and there appears to be little doubt that "the 30 to 40 per cent." may be realised by the proprietors; but in this case it can be ascertained that every natural advantage is possessed in the highest degree. This judgment is, moreover, strengthened by the fact of its being the only undertaking of the description whose shares are quoted at a premium on the Stock Exchange.

It has been frequently asserted that the great Bangor vein may be traced from Aler on the north, passing through Nantlle, to Cricceith on the south coast of Carnarvonshire; nothing can be more erroneous than such an assertion. We defy any man to trace that famous vein either near to Aber or to Nantlle. Independently of the Penrhyn and Dinorwic, the quarries are scattered about in all directions, and are not upon any one defined vein or course whatever. Of one sort or other there is certainly plenty of slate rock at Nantlle, but how many quarries, which are all spread about, are there in that locality which return a profit? Our penchant does not lie with the silky veins of Nantlle. It is our firm opinion that the Penrhyn vein does not run out of the Penrhyn and Vaynol properties, but that it is wholly absorbed by the Hon. Col. Pennant and by the successors of the late Mr. Assheton Smith, beyond any doubt whatever.

We believe that in many cases where success has not attended quarrying, as much may be attributed to inexperienced and incompetent managers as to any other cause. It is a peculiar business of itself, and needs long and practical familiarity with all the minute details of working the rock to enable a man to undertake the management of an undertaking of the kind

with any hope of making it a paying affair to the shareholders. We do not know of an instance where an undertaking has been successful unless the sole management has been entrusted to the experience of men who have actually been born to the work, and have served a life-long apprenticeship to it. We hold that the class of persons styling themselves mining engineers, who profess to criticise the present mode of working as being crude and unscientific, are not the men to work a quarry to a profit. Science, we fully admit, performs wonders under certain conditions and circumstances; but we have seen too much of the scientific, as applied to slate quarrying, ever to induce us to introduce it, without the most extreme caution and consideration, into an undertaking in which we should like to be interested. No; the man for that duty is a clear-headed, though somewhat slow-going, Welshman, who has worked through every gradation, from "rub-bish boy" upwards—a man practically acquainted with and who thoroughly understands the rock, and the best mode of developing its resources in a plain, simple, and inexpensive manner. We are not sticklers for this or that vein, or for this or that district, for experience teaches us, to use a homely proverb—"There are as good fish in the sea as ever came out of it," and the only difficulty in the matter is to secure the lucky prize.

Stress has been laid upon the fact of the Welsh people not being of a speculative character, but we do not value that an iota, nor does that circumstance detract from the value of any *bona fide* undertaking that may be developed by English capital and enterprise. "Nothing venture, nothing have," is a trite old axiom, and cuts both ways; besides, the very great preponderance of the Welsh are too poor and barbarous to be in a position to take an interest in the development of the mineral wealth of their country, nor is it needful that they should do so, when it is remembered what an immense amount of money is lying now unemployed in England, merely awaiting the impulse of being wasted upon some foreign mania—the mere scheme—when it could, with common prudence, be invested in undertakings such as the subjects on which we write, and which would prove unusually profitable outlays. There is much to be said on this subject, which we shall again revert to at no distant day. At all events, it is worthy of more consideration and attention by capitalists than it has hitherto had.

AN OLD SLATE MAN.

TRUTH'S ECHOES; OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been very inanimate during the week, and the transactions executed of a very limited character. At the same time, there has been an enquiry for shares in some of the leading dividend and progressive mines, which are likely to advance prices. The following are the mines which might be inclined to look forward to some improvement in the course of the ensuing week.

EAST WHEAL BARNET shares have been more active, and several changed hands, although the prices have fluctuated.—SOUTH FRANCES and NEW WHEAL FRANCES have been dealt in at former rates.—WEST WHEAL SETON and SETON continue in favour at present quotations, and transactions in each have taken place.—An enquiry for PROVIDENCE shares sprung up, and several changed hands.—ROSEVAINE UNITED have been more active, and business done at improved rates.—CARROLL shares have been in request, and some transactions are reported.—EAST CARADON shares have been fluctuating during the week, but continue in good demand.—MARKED VALLEY shares are firmer, and buyers found at the maximum rates.—WEST ROSE DOWN shares are in request at advanced prices.—TRELLAWY shares are more sought after, and have slightly advanced.—WHEAL LIDCOTE shares have been in fair demand, but few transactions have taken place, in consequence of the scarcity of shares.—HERODSFOT shares have advanced, and continue in request at the improved rates.—WEST CARADON shares have not been very much in demand, and the price continues depressed.—EAST WHEAL RUSSELL shares have been in usual demand, but without much animation.—Shares in the TAVISTOCK MINES have been remarkably quiet, and but few transactions recorded.—EAST GRENVILLE shares have been very much in request, and prices advanced, arising from a reported improvement at the shaft.—STRAY PARK shares have been firmer, and several transactions followed the week.—NORTH TREKENT shares have slightly advanced, and they appear to be in more demand.—POLGEAR shares have been freely dealt in, and many shares have changed hands, arising from a reported improvement in the mine.—NORTH BASSETT continues depressed, and the transactions done are at low rates.

CUPID shares have been more in request, and buyers found at improved rates.—HARRIETT, WHEAL UNITY, and WHEAL AGAR shares are among those reported to have been dealt in during the week, but no advance to notice.—GREAT RETALLACK shares have been very quiet this week, and the price continues depressed.—DALE shares have receded, and are more freely offered, at lower rates.—At WEST CARADON some improvement is reported in the 71 ft. level, and the new north lode; there are some other points looking more cheerful at shallow levels.—At EAST CARADON, the lode recently intersected in the 60 cross-cut continues a splendid course of ore; in driving east the lode is worth upwards of 60 ft. per fm., and west full 55 ft. In the 50 east lode continues of the same value as before reported; they have gone through the lode in this level for nearly 100 fms., leaving valuable ground, which will be stowed away at little cost. All other productive places are without any alteration.

At WEST SHARP TOR the prospects continue to look very encouraging, although no important change has taken place in the 150. The shaft is now going down in easier ground.—At WHEAL EDWARD the improvements recently made are stated to look well, especially in the 71 ft. level, and the lode is large, and producing 5 tons per fathom. The rises in the 40 and 50 are yielding full 4 tons per fathom.—At EAST DEVON CONSOLS they are progressing with the 40 west towards the great cross-course, near which they fully expect a great deposit of ore, from the general character of the lode. This opinion is in accordance with the views of all practical and experienced men who have seen the lode. The shaft is proceeding below the 40 in very favourable ground for mineral.

GREAT WHEAL MARTHA continues to look very well, and returning a large quantity of ore, but it becomes a serious matter for those interested in the mine by purchase of shares. The agent states that he has been obliged to suspend some of the best pitches of ore, and to work the inferior ones, which are filled with water, and producing 5 tons per fathom. It is now quite time that the shareholders looked to those parties who represent them, and enquire what they have done since the last general meeting; 2500 new shares were allotted, at 11. per share, for the purpose of raising further capital to erect a crusher, &c., and sink the engine-shaft. It is now nearly two months since that the shares were taken; 312l. allowed as discount for prompt payment, and no shaft in course of sinking, no crusher erected (query, is it bought?), and the Duchy officers refusing to allow the produce being returned before the ore is crushed. It is time that the shareholders call on the board for an account of their stewardship.

At EAST GRENVILLE they have an improvement in the engine-shaft, where the lode is large, and of a very promising character; at present it is producing from 2 to 3 tons of ore per fathom, and the 71 ft. level is large, and producing 5 tons per fathom. At other points they are looking more cheerful.—At PROSPER UNITED they have a discovery in the Moor lode, which, as far as seen, is considered of great importance; although a sample has been tried, and found rich in quality, it cannot be deemed a sufficient test to arrive at the value of the lode. A shaft has been commenced with a view to develop it more fully; and from the fact of its being in whole ground, and not seen or operated on before, much importance is attached to the discovery. Improvements have taken place in other parts of the mine, and much interest is being given to the developments now going on.

SOUTH WHEAL LOVELL has improved since the meeting, on March 27. The lode west of Origg's shaft, which was then worth 6l. per fathom, is now valued at 15l., and looking likely for further improvement.—BASSETT and GUYLLS account was held on March 28, when the financial statement for three months ending January last showed a balance of 1667. 13s. 3d. against the adventurers, and a call of 10s. per share was made. The prospects of the mines are of a very encouraging character, and there is little doubt but for the full in tin the mine would be in a good paying position.—At SOUTH WHEAL KITTY they have commenced sinking another shaft 40 fms. west of Webb's (where they have a good course of tin), and although but a few feet down the lode is found to carry good stones of tin, affording reason to expect its continuance that length at least. Another shaft is about being sunk 20 fms. south of the former, with a view to intersect the opinion of the managing agent. This morning (Friday) the report of Capt. James Evans, of St. Agnes, has been received. Capt. Evans has had considerable practical experience as a tin miner, and inspected South Wheal Kitty on Monday last. The report may be considered highly favourable, coming from so cautious and observing an agent. The report appears among the Mining Correspondence of this week's Journal.

WHEAL HARRIETT continues to look well, although the 100 east is not looking so well. They have a rich course of tin in the stope, as well as a good lode for copper. Other productive places continue much the same.—TRELLAWY has slightly changed in two or three places, and the deepest levels fall off. The lode in the engine-shaft is stated to be worth 15l. per fathom, which is down below the 134 ft. level.—WHEAL HEANES continues without any important change. They have commenced to drive at the 100 west; the lode is small, but producing tin. The lode at the 80 and 90 is larger and more productive. The pitches are making fair average returns, affording good wages to the takers.—At POLGEAR the lode in the shaft is reported to have very much improved, and still improving in sinking; the lode is of a promising character, and highly indicative of great results on being more fully developed.

At PENDREN CONSOLS they have a good lode in the 118 north, and also in the stope; it is large, and estimated worth 20l. per fathom. Other places continue much the same.—At WENDRON CONSOLS, the prospects at Bal Dies continue to improve, with every appearance of some valuable ground being developed. The heavy costs attending a new boiler, water-wheel, and stamping with the three weeks' loss sustained by the erection of the wheel, thereby precluding the stamping of the stuff, together with the drop in tin, are causes of the suspension of the dividends; but from present prospects there appears no reason to doubt their being resumed next meeting.

At TRUMPET UNITED they have a very promising lode in the shaft. The lode is not large, but very good work for tin, and worth full 15l. per fathom. The prospects are considered very encouraging, and they are working with considerable spirit. J. LANE.

From Mr. EDWARD COOKE:—The market during the past few days has shown evident signs of improvement. The continuance of fine weather, and the favourable aspect of the money market, cannot fail to prove beneficial to mining enterprise. The accounts from America are also more encouraging, and it is to be hoped that in the course of a few weeks there will be a peaceful termination to the existing differences between the States. Should this happily prove to be the case, the result would be most satisfactory to the mining interests generally, on account of the large importations of metals to the United States that would be required to replace the stock that has been allowed to diminish during the late period of agitation. No very important discoveries have been made lately in any of our mines to assist the recent depression in the market; but in the nature of mining property it is subject to this casualty any day. Therefore, while good mines may be bought at such prices as cannot fail, in our opinion, to return a large profit in the course of a few months, we would advise with much confidence those who have spare capital at command to invest it in five or six mines of well-known merit. They may not all improve in value, but the result in the aggregate in two months would be very satisfactory to the investor. Probably there are many who hold shares at high prices. The question then arises, would it be more advisable to sell or to buy an equal interest at the present reduced price? The latter operation is a very prudent one when the mines in question possess real merits, as there is such vitality in this class of property that it generally repays the patient firm holder when the investment has been made in well-managed mines in a good locality. EAST CARADON shares have been dealt in to a considerable extent at between 18½ and 19½. The operations in the shares, how-

ever, have been chiefly confined to the market. The mine, we learn, is looking well. TRELLAWY shares have been dealt in to a fair extent at advanced prices. EAST GRENVILLE shares, a few weeks since 14s. to 15s., have now advanced to 40s. ROSEVAINE UNITED shares advanced during the week from 21 sellers to 27½ buyers, thus showing the chances there are of making large profits by buying into mines when they have receded below their intrinsic value. WHEAL MOYLE shares have been dealt in at 27s. 6d. to 42s. 6d.; everything progressing satisfactorily. In our next we shall be enabled to speak more positively as to the value of the lode in the 12 ft. level; but the shareholders may rest assured that they have a first-class property in this mine, and one that will, in all probability, double itself in real value in the course of a few months. WHEAL UNITY shares have been dealt in at very low prices; at the present quotations they should be bought, and those who adopt this too unreasonable suggestion will, ere long, see the propriety of having acted upon it. The same remark will apply to WHEAL WREY shares. A call of 7s. 6d. per share has just been made, and those who know the management may rest assured this amount was sufficient for all purposes. It will be about three months before another meeting takes place; in the meantime there are great chances of improvements in the mine that may cause a considerable rise in the price of the shares. There are several other low-price shares that offer a good margin for a rise in price during the next few months, and are well worth the attention of the speculator; indeed, a more favourable opportunity for buying into mines than the present has not occurred for several years past.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

NEW CROWN HAT (Hollywell, Flintshire).—The work at this new mine is progressing very favourably; the new shaft has been sunk directly upon the lode, which has been cut into at a depth of 23 yards from surface; the vein is opening out well, and some large lumps of ore, weighing nearly ½ cwt. each, are now being raised. The first parcel of ore will be sold shortly, and there is reason to congratulate the owners, who, I believe, are for the most part working miners, on having secured a vein which will be fair to turn out as productively as its near neighbour, the Old Colta Bal. The Old Colta Bal vein, which returned many thousands of tons of lead ore, runs parallel with the Crown Hat vein at a distance of about 20 yards only.

POLGEAR.—The lode in the shaft sinking below the 20 has much improved, and is now producing some rich grey and black copper ore, and giving indications of becoming productive at a shallow depth.

PROSPER UNITED.—The two 70-in. pumping-engines will soon be ready to be set to work, and in the meantime the surface works have been laid out on the most complete, substantial, and extensive scale. The Moor Tin lode was lately cut through in the deep drain, and found to be a good one, and, in bringing in a deeper stope, it is very much improved; in fact, at present it is a very rich lode. Its exact value cannot yet be known, but, from present appearances, it is a great and very valuable discovery. Some of the best part of the lode has been assayed, and produced 46 dwts. 20 grains, which is worth 8l. 4s. per barrow of 22 gallons; the lode is 3 ft. wide, and a new shaft is set to be sunk on it. Murchison's lode is also much improved in appearance, and it is considered certain to turn up a trump. At the present moment the mines have certainly the prospect of becoming exceedingly rich, and shares will probably advance considerably even by the end of this year.

CUDRA.—The shaftmen, in holing the ground from the 90 to where the lode passed through the shaft, have raised a quantity of grey and black copper ore; rocks of this ore, 1½ cwt. each, have been broken from the lode. There is every prospect of having a good lode in the shaft below the 90, as at this level a great improvement took place in the lode. The tin lode in the various levels is being opened out so as to enable it to be taken away with economy and dispatch, it being on an average from 7 to 8 feet wide, will produce an abundance of stuff for the stamps. It is expected the stamps will be to work early in May. It is expected that from 30 to 40 tons per month of good copper ore will be sold for the next three months, or till the 100 is reached, when the quantity will be much increased.

GREAT RETALLACK.—Although this mine has disappointed the expectations of the adventurers as to commencing dividends, there appears, all surrounding circumstances considered, to be no valid reason for expecting any result but a favourable one. At the meeting held on Wednesday a balance of assets of 1209l. was shown, and on the 12th (yesterday) the sales were announced of 800 tons of blende at 32s., and 100 tons of 40s. per ton, the last sales having been 400 tons at 32s., and 100 at 42s. 6d. Of course, the diminished produce from the last sale is a circumstance to be regretted, (especially as the difference between the estimated value of the blende sold and its real produce reduces the assets in question to about 700l.), although not altogether unforeseen, considering the depressed state of the market for all metals and the curtailment of their export, particularly to the United States. The mine, it is consolatory to observe, does not appear to have retrograded, but on the contrary, holds out hopes of continued success. The shares having receded to the low price of 25s. (little less than one-third of their former value when the mine was scarcely half as much developed as at present), they offer under more favourable circumstances of markets, besides a wide margin for profit to new capital, an excellent opportunity to present holders to reduce their general cost, of which it is probable many will take advantage; the report remains to add, read at the meeting being of a very favourable character, particularly as to the new lode represented as 6 feet wide: 100 tons of the blende sampled remain unsold, to be added to the produce for the next sale.

BOTTLE HILL.—A meeting of the shareholders was held on Wednesday, when the report showed a diminished income, owing to the protracted and severe winter impeding the dressing of the tin. Surplus of assets over liabilities, 549l. Besides the falling off in produce ready for market, the drop in tin amounts to 10l. per ton. The ore on the mine at present is estimated 20 tons, worth, however, when ready for market, only 1400l. in place of 1600l. at former prices. Although there are good and important points in the mine, it is represented in the language of the report as "not looking so well generally," a fact in some measure neutralised by a telegram on the day of the meeting of the touching the lode, and good stones of tin in Blanchard's level, an event anticipated in the conclusion of the report. On the whole, there is little to discourage the shareholders, and especially the ultimate results, and especially when some important elements enter in the concern, in good management, and a highly respectable body of shareholders, who are generally amongst the last either to force shares on the market or to neglect opportunities of supporting them at a lower range of prices.

WEST GREAT WORK, under the new management, is opening out well. One end has passed through a bunch of tin for 4 fms. in length, and still continues good. A rise in the back of this level is also worth 20l. per fathom; and another end is opening tribute ground. There are now to be seen on the mine such slides of tin as cannot be equalled in the district.

TRYPHENA MINE.—The 1024 shares into which this mine is divided have been appropriated to a large number of the most respectable gentlemen in the county, and including, at least, one lady (Mrs. Pendarves, the landowner). Capt. R. Pryor, the manager, can produce a list to which no person can object. He has brought the mine before the public on a sound basis, and has obtained a subscription of 1000l. or 2000l. for the property, he has charged nothing, and will only ask the company, when they meet, to grant him such a sum for the mine and the costs incurred as they may think it right to pay. His representations of the state of the mine are very encouraging, and can be sustained by evidence unquestionable, to the effect that after an engine has been erected and the water drawn out the mine will pay its cost, and very soon after leave a profit for the company. The number of applications for the sett (at least 20) is a proof of the confidence entertained as to results of working. It was the low price of tin when the old company abandoned the mine which induced them to retire from it; several of that party, however, are glad to join Capt. Pryor as co-adventurers.

DULTA TIN MINE.—Capt. R. Angove, of North Roskear, has recently inspected this mine on behalf of Mr. T. E. W. Thomas, of Liverpool. His report is considered very satisfactory, and draws special attention to two lodes; one intersected in the south cross-cut, "18 in. wide, producing good stamping work for tin;" and the other in particular (Butt's lode), "opened on at surface for more than 300 fms. by means of pits about 4 fms. deep, which for this length is from 3 to 5 ft. wide, and producing good tin work for the whole length." This lode has just been intersected in the cross-cut, partially cut into, and producing tin. A few days will decide the importance of this discovery, this being considered the champion lode of the mine.

RHYSCOG MINING COMPANY.—Extracts from letters received from Mr. James Mitchell (of the Alderley Mines), one of the directors, dated April 4:—"I would give you my opinion on the Rhyscog mine, and my engagements will not allow me, therefore I write to give the best advice I can for working the Rhyscog Mines. I stated in my last that I could not recommend opening out upon the Cwm Bred lode, unless that lode is in the company's lease as it goes down in depth. This should be ascertained at once. If the Cwm Bred River is their northern boundary, it does not continue down beyond 15 to 20 fms. therein, and where the river bends south often not more than 5 to 7 fms. If this lode is entirely in the company's lease, then in such case I would advise the sinking of a shaft to the north of the river, so as to cut the lode at 50 fms. deep; driving a cross-cut from the shaft to the lode at 15 fms. A water-wheel might be erected of sufficient power to keep the water out of the mine for a very considerable period; and I believe that the shaft to lead to 20 to 30 fms. deep would be large. It is one of the prettiest lodes I have seen for many years, and it sells itself. An abundance of lead. I believe that an economical outlay in plant, &c., of 3000l. would make it a very profitable mine. The sample of the lode which I took home with me gave 77½ per cent. of lead. If the Cwm Bred lode is wholly in the company's lease, or if it can be obtained, I believe that within two years from the time you might commence working on it effectually a profitable mine would be obtained." "Since writing my letter of this morning I have received Mr. King's, directed to me at the Alderley Mines, enclosing a tracing of the boundaries of the mines, whereby I see the boundary to the north is not the Bred or Brewig River. This is better than I expected; yet you will see by the blue line I have laid down as the run of the Cwm Bred lode that it is very desirable to obtain an extension of the boundary north and west, if possible, as from where the mine is opened, as it crosses the river at A, it is immediately out of your ground, but on the west a considerable depth may be sunk before it will be so. Still, as I believe this to be a very important and valuable lode (for its situation at the foot of the hill is everything that could be desired), and that it will make ore to a great depth, therefore it is important to get a sufficient piece of ground to the north to work it to the depth of 200 fms., if necessary, before the underlie of it passes it out of your ground. Of course, my laying down the lode and add by my eye only is not correct, but I trust it will give you some idea of their respective positions."

TIN-STREAMING IN SPAIN.—An influential company is in course of formation, with a capital of 20,000, in shares of 1l. each, for leasing and developing a property 356 English acres in extent, situate about 30 miles from Vigo. A ton of tin can be produced at a cost, including all charges, under 65l. per ton, which will leave a profit of some 60l. on each ton treated. The works are all open, no underground workings nor expensive machinery being required. Water is abundant, and labour plentiful at 1s. per day per man. No shares are to be allotted until two-thirds are subscribed for, and unless that amount be taken all deposits will be returned in full. If such conditions were general a far larger number of capitalists would be induced to embark in joint-stock enterprise. The property has been carefully inspected by Capt. Fras. Barratt, Jun., of Cornwall, and his report certainly is of the most encouraging character. The kaolin, which is the matrix in which the tin is contained, holds 62½ per cent. of metal. He considers that, if this property be worked upon an extensive scale, and in a skillful and efficient manner, it will amply remunerate the company for the capital which it will be necessary to expend upon it. Three or four water-wheels, with about 20 heads of stamps each, will be required. Capt. John Dalley reports that he believes that the works he carried on in the mine at which the tin-streaming and china-clay works in the St. Austell district are prosecuted, very profitable results must be realised. Capt. A. Strachan (the secretary), whose knowledge of the Spanish language was of much assistance to him, reports very favourably upon the property, and the kindness he received at the hands of the vendor. Having tested and endeavoured to verify the data upon which the statements and estimates of Señor Morales were based, and he believes them to be truly represented. He showed him the titles of the pertenencias which he holds

NORTH JANE MINE, KENWYN, CORNWALL—WANTED
for this mine, a RESIDENT MANAGING AGENT. He should be acquainted with tin dressing.—Applications, with testimonials, to be sent up to the 16th inst. to Mr. JAMES HOLLOW, Mining Offices, Lelant, Hayle.—April 8, 1861.

PARTNER with £2000 WANTED in a BITUMINOUS
COLLIERY of 200 acres, in the centre of the South Wales mineral basin, lying within 600 yards of railway and dock accommodation, and a mile and a half of a thriving town. The coal, which is of excellent quality, has been abundantly proved, and is now being worked. This is a highly eligible opportunity, as a good rate of interest will be guaranteed on the partner's capital by the present proprietor.—Apply to Mr. THOMAS THOMAS, estate agent, auctioneer, &c., Neath, Glamorganshire.

THE ADVERTISER, who is **EXPERIENCED** in **MAPPING** **LEVELLING**, **SURVEYING**, and **DIALLING**, a **GOOD CHEMIST**, and **THOROUGHLY CONVERSANT** with **ROCKS** and **MINERALS**, **METALLIFEROUS DEPOSITS**, &c., and **ACCUSTOMED** to the **SUPERINTENDENCE** of **MINES**, is **OPEN** to a **RE-ENGAGEMENT** in an established company, either at home or abroad.—Address, "Aluminum," *Mining Journal* office, 26, Fleet-street, London, E.C.

TO PROMOTERS OF COMPANIES.—The SERVICES of a GENTLEMAN possessing a first-class mining connection REQUIRED to PROCURE CAPITAL to WORK some LEAD and COPPER MINES of undoubted value. A liberal arrangement made with a suitable party.—Address, "Copper and Lead Mines," *Mining Journal* office, 26, Fleet-street, London, E.C.

WANTED, an EXPERIENCED UNDERGROUND AGENT for a STEAM COAL COLLIERY in SOUTH WALES. Must be capable, energetic, and of steady habits. It is desirable that he should have a practical acquaintance with the pumping system. The immediate duties consist of the operations of the pits and of the management of the machinery, and the responsibility, including the dispatch of the machinery would also be part of his responsibility. Full information of previous situations, present age, salary expected, &c., to be addressed—“T. J. M. Post-offices, Llanelli, South Wales.

WANTED, by an EXPERIENCED PRACTICAL ENGINEER and DRAUGHTSMAN, a SITUATION as MANAGER. Preferred if with prospect of partnership in a limited period.—Address, "P. G. M.," Post-office, Ilminster.

WANTED, a SITUATION as UNDERGROUND MANAGER having had considerable experience in the North of England and Wales. Can survey and plan, &c. Satisfactory references can be given.—Address, "Graig," Post office, Mountain Ash, Glamorganshire.

WANTED, by a young gentleman, a respectable SITUATION in an IRON or TIN-PLATE WORKS. He is thoroughly conversant with the manufacture of tin-plates in all branches, having had several years' experience. He could take the management of a tin-plate works, with puddling forge and tin mills, or the forge or mills alone. References and testimonials as to respectability, competency &c., can be given.—Address, "M. P." Dewsall Rectory, near Hereford.

WANTED TO HIRE, FORTY or FIFTY COAL WAGONS to carry 5 to 6 tons each, and made to open at one end.—Offers addressed to "Wagons, 249," *Mining Journal* office, 26, Fleet-street, London, E.C., will receive attention.

THE CREDITORS under the late insolvency of **ALEXANDER PRINCE** and of the late **JOHN DUNCAN**, partners of Thomas Green in railway matters, will **HEAR** of **SOMETHING** to **THEIR ADVANTAGE** by applying to **M. JONES**, 116, Bishopsgate-street Within.

SLATE QUARRY.—LOAN at 10 per cent. per annum UPON DEBENTURES of the CARNARVONSHIRE SLATE COMPANY (LIMITED) to the extent of £5000, in sums of not less than £100.—For terms, applications to be addressed in writing to Mr. TIMOTHY TYRELL, Guildhall-yard, London.

IMPORTANT TO THE IRON TRADE.—By the AID of J. BROAD'S PATENT APPARATUS for ECONOMISING COAL and OTHER FUEL in BLAST FURNACES, EVERY AVAILABLE PARTICLE of SMALL FUEL MAY BE so USED as to be nearly equal in efficiency to large coal and coke. —17, Begrave-terrace, Villa-road, Handsworth, near Birmingham.

Oxide of Manganese.—REQUIRED, a QUANTITY, of friable nature. As percentage is not an object, the price must necessarily be low. Send samples (carriage paid), and every particular as to price and time of its possible delivery in London, to "S. Z." care of Housekeeper, 3, Austin Friars, London.

CAERNARVONSHIRE.
IMPORTANT TO CAPITALISTS—VALUABLE SLATE AND
SLAB VEIN FOR SALE.—TO BE DISPOSED OF, BY PRIVATE CONTRACT
an EXTENSIVE SLATE AND SLAB VEIN, most advantageously situated within the

a mile from the proposed railway terminus at Bettws-y-Coed.—Plans, particulars, and reports may be had at the *Mining Journal* office, 26, Fleet-street, London, E.C.; and of Mr. W. DEW, Bangor, North Wales.

WARWICKSHIRE.
COAL AND IRONSTONE MINES.—TO BE LET, on royalty upwards of SIXTY ACRES, with TWO ENGINES, &c. There is a canal and public wharf within a short distance, and there is every probability of a railway being

made which will afford communications with London and Birmingham. To an enterprising and responsible party the proprietor would afford every liberal accommodation.—Apply to Messrs. RAWLINS and ROWLEY, solicitors, Birmingham.

VALUABLE MINERALS TO LET, ON LOCHFYN.
See *Mining Journal* of March 16, page 174.

TO BE SOLD, BY PRIVATE TREATY, the LEASE
perpetuity and PLANT of a VALUABLE LEAD MINING SETT, which
3 1/4 miles long by half a mile wide, and which has been worked by private parties

174 mile long by half a mile wide, and which has been worked by a private gentleman to a profit for many years, but who is now deceased. This offers an opportunity seldom met with for parties wishful to form a public company.—Every information will be forthcoming by applying to "X. Y. Z.," *Mining Journal* Office, 26, Fleet-street, London.

TO COAL OWNERS AND COKE BURNERS

MACKWORTH'S PATENT COAL WASHER
OR PURIFIER.—This MACHINE will EXTRACT the SHALE and ALL
HEAVY IMPURITIES from SMALL COAL at the COST of TWO PENCE PER TON.

TO COLLIERY PROPRIETORS.—PATENT TIPPING
MACHINES TO PREVENT THE LOSS FROM BREAKAGE IN LOADING

COAL ON RAILWAY WAGONS, SHIPS, &c.
ARTHUR AND JAMES RIGG, PATENTEES AND MAKERS,
GEORGE STREET, CHESTER.

VENTILATION OF MINES.—ELLIS LEVER INVITES the ATTENTION of OWNERS, VIEWERS, and MANAGERS of COLLIERIES to his recently IMPROVED MATERIAL for BRATTICING and MAKING TRAP DOORS, in the working of coal mines. It is made in every width, and in various

For the VENTILATION of SHAFTS, and for CONVEYING AIR to the various
UNDERGROUND WORKINGS of MINES, ELLIS LEVER has contrived and introduced

Further information may be had on application to the manufacturer, **ELLIS LEVY**,
West Gorton Works, Manchester.

"THE RAILWAY AND THE MINE."—LEVER'S Illustrated Year-Book for 1861, price 2s. 6d., may be had in London of Simpkin, Marshall, and Co., and all booksellers throughout the Kingdom.

JOHN GLEDHILL AND CO., MINE AGENTS AND
SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.

MR. FREDERICK EDMUND BLYTH, MINING
SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.

65 Unity, 8s. 3d.	30 So. Condurrow, 14s. 9d.	20 Dale, 13s. 6d.
15 North Downs, £4.	50 Great Retallack, 25s. 9d.	15 Indcott, £3 6s. 3d.

4 No. Treskerby, £24½. 35 Crebor, 11s. 3d. 2 Trelawny, £14½.
Mr. BLITH is a BUYER of Mary Ann, East Grenville, and West Rose Down. St
number and lowest price.

FIFTEEN to TWENTY, and even TWENTY-FIVE PER CENT. PER ANNUM
upon current value of shares, in **CORNISH TIN and COPPER MINES.**

MESSRS. TREDINNICK AND CO., MINING ENGINEERS
SEND their SELECTED LIST OF SOUND PROGRESSIVE AND DIVERSE

DEND SHARES upon the receipt of a Fee of One Guinea.
 Review of Cornish and Devon Mining Enterprise, 5s. per copy.
 Maps per post of the Buller and Basset, Great Vor, Alfred Consols, the Providence

Cornish Mines, well selected, pay better than any other description of securities, freer from risks, and entail less responsibilities than banks and other joint-stock co

Money advanced at 10 per cent. annually, for short or long periods, upon approved Mining Shares.—78, Lombard-street, London, E.C.

SECURE INVESTMENTS.—Capitalists will find British Min
pay the largest profit of all known securities. To invest £1000 in Consols, railw

debtures, or bank shares, the largest amount receivable is £60 per annum, whereas former yields an income of at least £150. Progressive Mines, judiciously selected, frequently advance from 100 to 500 per cent., and free from risk.

communication with agents of the principal mines in the kingdom, and are in a position to advise as to the merits of each class of property.

A few SHARES FOR SALE in Dolcoath United and West South Canadon.

C H A R L E S D A V E Y A N D C O
SAFETY FUSE MANUFACTURERS,
ST HELEN'S JUNCTION LANCASHIRE.

Now ready, price 6s., or 78 postage stamps, Mr. THOMAS TAPPING

the COLLIERY AND ORE-MINE INSPECTION AND TRUCK ACTS. The wo
can be had from the *Mining Journal* office, 26, Fleet-street.

4. The following are the names of the persons who have been appointed to the various committees of the Board of Directors:

ABRIDGED PROSPECTUS.

THE BEARIZ TIN STREAMING COMPANY (LIMITED).

Capital £20,000, in 20,000 shares of £1 sterling each.
2s. 6d. per share to be paid on application, and 5s. on allotment; and the remainder, should it be required, by instalments at intervals of not less than three months.

DIRECTORS.
JOHN WALKER, Esq., (of Messrs. Walker, How, and Co., 8, Cannon-street), 60, Portchester-terrace, London, Chairman.
THOMAS WILLIAM KINDER, Esq., 8, Belisle-park, London.
WILLIAM FREDERICK PALMER MOREWOOD, Esq., (Director of the Oakerthorpe Iron and Coal Company), Leamington.
GEORGE THOMSON, Esq., of Aberdeen, and 25, Bucklersbury, London.
(With power to add.)

AUDITORS.—Henry Croysdill, Esq., accountant, 14, Old Jewry, London; Richard Price, Esq., Finsbury, London.
BANKERS.—The City Bank, London; the Commercial Bank of Scotland, and branches.
SOLICITORS.—Messrs. Simpson, Roberts, and Simpson, 62, Moorgate-street, London.
SHAREBROKERS.—Thomas Fenn, Esq., 3, Royal Exchange, London.
SECRETARY.—Alexander Strachan, Esq.

OFFICES OF THE COMPANY.—17A, SISE LANE, BUCKLERSBURY, LONDON.

The object of this company is to acquire by lease a valuable property within 30 miles of Vigo, in Spain, from Señor Merrelles, the present proprietor, for which a favourable contract has been arranged by the directors, and to continue and extend the working of the tin ore existing in kaolin or china clay (a band of friable and decomposed felspar) therein at a depth of from 6 ft. to 18 ft. below the surface.

Captain Francis Barratt, jun., of Cornwall, who has had great practical experience, especially in tin streaming, and who has been sent to examine the property, which consists of about 350 English acres, reports:

"I consider that if this property is worked upon an extensive scale in a skilful and efficient manner, it will amply remunerate the company for the capital which it will be necessary to expend upon it. It will be seen that I consider the estimate by Señor Merrelles of the cost of raising and washing out the tin (£64 14s. 8d. a ton) is higher than it will be found under proper working arrangements; and I believe that an outlay of £10,000 progressively and judiciously expended will be amply sufficient to open out the workings and erect the requisite machinery at various points, and then with the employment of additional hands, 250 tons of tin per annum may be produced."

A ton of tin can be produced for sale at the works at a cost, including all charges, under £64 14s. 8d.; but even that cost, reckoning the selling price at only £125, will leave a profit of £60 5s. 4d. per ton; or on a year's produce of 250 tons, as calculated by Señor Merrelles, and confirmed by Capt. Barratt, a net profit of £15,066 13s. 4d. per annum which would be equal to 75 per cent. on the whole of the proposed nominal capital of this company.

No underground workings nor expensive machinery are required. Water is abundant.

The requisite supply of labour may be had at 1s. a day per man. Charcoal is delivered at the works for smelting at £1 10s. 6d. per ton.

As the rule of the Stock Exchange requires that two-thirds of the shares of companies be subscribed for prior to quotation in the public list, the directors of this company will not proceed to the allotment of any shares until more than that proportion shall be subscribed; and in case the company shall not be established, all deposits will be returned in full.

Applications for shares must be made in the annexed form. Each applicant will be required to pay in to one of the bankers of the company 2s. 6d. per share on the number of shares applied for, in part payment of the deposit of 7s. 6d. per share; in exchange for which a receipt will be given. In the event of the directors allotting less than the whole number applied for, the amount paid in to the bankers will be applied towards the deposit of 7s. 6d. per share payable on the number allotted.

Full prospectus, plans, reports, forms of application for shares, and of bankers' receipts for deposits, may be had of THOMAS FENN, Esq., stock and sharebroker, 3, Royal Exchange-buildings; at the City Bank; or of the offices of the company, 17A, Sise-lane, Bucklersbury, London.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Beariz Tin Streaming Company (Limited), 17A, Sise-lane, Bucklersbury, London.

GENTLEMEN.—Having paid into the hands of the Bank the sum of £ to your credit, I request you will allot to me shares of £1 sterling each in the above-named company, and I agree to accept such shares, or any less number that may be allotted to me. (The applicant to add name, address, description, and date).

WEST WHEEL FRIENDSHIP COPPER MINING COMPANY (LIMITED).

In the Parish of Brentor, County of Devon.
Incorporated by Act 19 and 20 Vic., cap. 47, by which the liability of the shareholders is limited to the actual amount of their shares.

Capital £18,000, in 9000 shares of £2 each.
Deposit, 5s. per share; 15s. on allotment; the remainder, if required, in calls of not more than 5s. per share, and at intervals of not less than three months.

DIRECTORS.
PONSONBY ARTHUR MOORE, Esq., J.P., Penge, Surrey, S.E. (Chairman).
JAMES BANCKS, Esq., the Prebendal, Thame, Oxon.
EDWARD B. FITTON, Esq., Keston, Bromley, Kent.
HENRY FENTON JADIS, Esq., Comptroller, Board of Trade, Whitehall.
JOSEPH LEWIS FRANKLIN, Esq., 16, Albemarle-street, Piccadilly.

BANKERS.—The City Bank, Threadneedle-street, E.C.
BROKER.—Joseph James Reynolds, Esq., 7, Bank Chambers, Lothbury.
SECRETARY.—J. Peddell, Esq., 82, Chancery-lane.
CONSULTING ENGINEER.—Joseph H. Hitchens, Esq.
SECRETARY.—H. Dendy, Esq.

TEMPORARY OFFICES.
3, CROWN CHAMBERS, CROWN COURT, THREADNEEDLE STREET, E.C.

This valuable mine is situated in the parish of Brentor, in the county of Devon, and almost adjoining the celebrated Wheal Friendship Mine, which has paid upwards of £200,000 in dividends, and still continues to be a most profitable investment.

It will be seen from the report of Mr. Josiah Hitchens, consulting mining engineer to the Devon Great Consols, and of Capt. James Richards, manager to the Devon Great Consols, that the lodes in this mine are not only of unusual width, but in their geological construction exactly similar to those of Wheal Friendship.

The principal feature of the mine, as at present explored, consists of three lodes, referred to in the reports as the main north lode, the middle lode, and the great south lode; and from their quick underlie, the junction of these two latter with the main lode may be expected at not much greater depth than the present engine-shaft, in the sinking of which a large sum of money has been expended by the former adventurers.

The directors have several other reports from mining men, as also the reports of the meetings of the former adventurers. These can be seen on application to the secretary at the company's offices, together with specimens of the gossan and of the ore at the 43 fathom level.

If no allotment is made the deposits will be returned in full.

Applications for shares may be made to, and prospectuses with reports upon the mine can be obtained from, the brokers or secretary, but no application will be considered unless the deposit of 5s. per share applied for has been previously paid to the bankers, or through the office of the company.

THE TORBANE HILL MINERAL.

It is a disgrace to Science that any doubt should ever have been thrown by any scientific man upon the nature of this substance, now so well known everywhere through the civilised globe as the Torbane Hill Mineral, with the *alias*, when under drought, of Boghead Gas Coal. Nine-tenths, or even a larger majority, of all scientific men, led by those who are at the head of their departments of the various physical sciences, are now quite as one on the subject. The States of the Zollverein and the Prussian Government decided years ago that the substance in question is not coal, and so not liable to Customs duty. And lately the French authorities also have pronounced the substance to be bituminous schist (*schiste bitumineux*), and therefore able to pass into France free of duty leviable upon coal. That the base of this mineral is a clay, and not, as happens in the case of all coals, preponderating fixed carbon—charcoal or cinder, is a fact now as well known everywhere as any physical fact of the kind can be. It is, moreover, well known that the mineral substance in question gives 75 per cent. of a valuable tar or oil, capable, by easy purifying and rectifying processes, of yielding a highly valuable, because most economical, illuminating oil, as well as thicker oil, useful for all sorts of lubricating purposes, solid paraffine, and other important products. That on a clay base equal to one-fourth in weight of the substance, there should be superadded the enormous proportion of three-fourths, or 75 per cent. of oil—usually called, as it is, paraffine oil—is one of the wonderful facts relating to a mineral which is surrounded by an atmosphere of mystery. The Torbane Hill Mineral, in fine, is one of the most astonishing discoveries of the day, in an age of physical discoveries. It must be exceedingly gratifying, therefore, to all the patrons of physical science, and indeed to all lovers of truth, that an opportunity is about to be afforded for the fullest discussion, by the scientific men of all countries in Christendom, on the nature and peculiar qualities of this celebrated substance. If the physical sciences singly—if all the physical sciences united—be not adequate to tell whether this thing be coal, or oil-clay, what are the physical sciences worth? In fine, the mineral has had much *et cetera* already, and is likely to have still a great deal more celebrity, higher and better. Its fame will be world-wide.

The opportunity alluded to will be afforded by an action which Mr. and Mrs. Gillespie, of Torbane Hill, have instituted against Messrs. Young, Binney, and Meldrum, of the Chemical Works, near Bathgate, and in the immediate vicinity of Torbane Hill itself. It is now necessary to detail, on the present occasion, many particulars regarding the nature and operation of the law action in question; it may suffice to state that, whereas Mr. and Mrs. Gillespie have been injured, and are in course of being injured, to a vast extent by that chemical company's operations, in lowering and keeping down the price of the Torbane Hill Mineral in the market, by their alleged patent, Mr. and Mrs. Gillespie conclude against that company on this ground (among other grounds), that whatever patent, good or bad, they may have applicable to coal, it cannot, with any propriety, or without violation to truth, be held to be applicable to the Torbane Hill Mineral, which is not coal at all, but, in truth, a new mineral, it being indeed "a new mineral substance, having an argillaceous base, and of so peculiar a nature as to contain in it a new and very peculiar variety of bituminous schist, shale, or clay," and generally called the Torbane Hill Mineral. The scientific world will learn with pleasure the information that so satisfactory an investigation is to be afforded.

All scientific gentlemen, whether chemists, microscopists, mineralogists, or geologists, as well as all practical men, engaged in any occupation which requires, or may permit, for any purpose, the use of the Torbane Hill Mineral—in whatever country of Europe or part of North America—who feel disposed to bear testimony to the truth concerning this substance, by declaring their reasons for holding it not to be coal, are requested to send their names, without delay, to Mr. GILLESPIE, of Torbane Hill, Scotland (office, 7, North St. David-street, Edinburgh), or to any of his agents in England or Scotland, viz.:

Messrs. SIMON and THALL, Solicitors, Westminster.
Messrs. D. M. and H. BLACK, W.S., Edinburgh.
Messrs. MONTON, WHITEHEAD, and GREGG, W.S., Edinburgh.
Messrs. MACNAUGHTON and FINLAY, W.S., Edinburgh.
Messrs. MITCHELL, ALLAN, and MITCHELL, Writers, Glasgow.

CODIE'S PATENT STEAM HAMMERS.
First-class "MOVING CYLINDER" STEAM HAMMERS, from 5 cwt. to 7 tons, suitable for jobbing forges, puddling forges, and the smiths' shops of engineers, shipbuilders, &c. Pressure of steam required, 25 lbs.

BAIN AND WYLIE (Successors to John Codie).
Shield's Ironworks, 330, Edginton-street, Glasgow.

North of England Institute of Mining Engineers.

NORTH OF ENGLAND INSTITUTE OF MINING ENGINEERS.

GENERAL MEETINGS of the Members of this Institute will be HELD in BIRMINGHAM, on the 9th, 10th, and 11th of July next, detailed notices of which will be published and issued as the time approaches.

Meanwhile, with the view of encouraging mining science and promoting the objects of the Institute, the attention of the mining interests, colliery managers, inventors, patentees, and the general public is invited, in order that all persons who may have models, plans, and patented improvements in machinery or apparatus used in mining to exhibit may lose no time in communicating with the managing committee, so that space may be reserved for them.

All communications to be addressed to Mr. THOMAS DOUBLEDAY, the secretary of the Mining Institute, Newcastle-upon-Tyne.

Members having gentlemen to propose or papers to be read are requested to signify their intentions before the 15th of May, in order that the committee of management may arrange the proceedings of the three days in Birmingham, the details of which will be hereafter published.

Newcastle-upon-Tyne, April 8, 1861.

PRACTICAL GEOLOGY—KING'S COLLEGE, LONDON.

PROF. TENNANT, F.R.S., will give a COURSE OF LECTURES ON GEOLOGY, having especial reference to the APPLICATION OF THE SCIENCE TO ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE. The lectures will commence on Friday morning, April 12, at Nine o'clock. They will be continued on each succeeding Wednesday and Friday, at the same hour. Fee, £1 11s. 6d.

R. W. JELF, D.D., Principal.

EVENING LECTURES ON GEOLOGY, AT THE

GOVERNMENT SCHOOL OF MINES, JERMYN STREET.—MR. WARINGTON W. SMYTH, M.A., F.R.S., will COMMENCE a COURSE OF TEN LECTURES ON GEOLOGY, on Monday, 15th April, at Eight o'clock; to be continued on each succeeding Thursday and Monday evening, at the same hour. Tickets for the whole course, price 5s., may be had at the Museum of Practical Geology.

PROF. TYNDALL, F.R.S., will COMMENCE a COURSE OF

THIRTY-SIX LECTURES ON PHYSICS, at the GOVERNMENT SCHOOL OF MINES, JERMYN STREET, on Monday, 16th April, at Two P.M.; to be continued on each succeeding Tuesday, Wednesday, Thursday, and Monday, at the same hour. Fee for the course, 30s.

TRENHAM REEKS, Registrar.

METALLURGICAL OFFICE.—A. VIMBUX AND CO.

3, RUE DAVAL, BOULEVARD BEAUMARCHAIS, PARIS, are in a position to give every information respecting the solvency of any individual or firm connected with metallurgical industry in France.

Price for a single report 2s. 6d.

Price for more than ten, each 2s. 6d.

Debts collected, and disputed claims negotiated. The establishment of this office, the operations of which have been already fully appreciated, is of incontestable utility to the whole of the metal trade. Expedition, punctuality, activity, and rigorous enquiry may be depended upon. Correspondent, Mr. E. VIMBUX, 80, Upper Stamford-street, London. Postage stamps may be sent in payment.

TO CAPITALISTS AND BANKERS—SAFE INVESTMENT.

THE PROPRIETOR of one of the RICHEST COPPER and SILVER-LEAD MINES in the kingdom WISHES TO MEET with a PARTY or PARTIES commanding a few thousand pounds (with whom a safe and liberal arrangement will be made) to PROVIDE the necessary PLANT, and to EXTEND OPERATIONS. The mines are now producing, and could be worked to great profit at comparatively little cost, being principally by levels, with abundance of water-power, &c.—Full particulars, and specimens, by addressing "F. G. S., Mitre Tavern, Mitre-court, Fleet-street."

TO ENGINEERS, MILLWRIGHTS, & C.—KIRKSTALL

FORGE, YORKSHIRE, has long been famous for the excellency of its manufactures, and attention having been directed to the manufacturing of TURNING BARS, a first-rate reputation has now been established for these bars, for bright or black shafting, &c. They are STRAIGHT, ROUND, SOLID, ENTIRELY FREE from LAMINATIONS and SCALES, and at the same time STRONG BODIED, and the PRICE does NOT EXCEED the cost of ordinary STAFFORDSHIRE or best SCOTCH BARS, while it is infinitely MORE ECONOMICAL than any other iron in the market, being so very much more easily finished for use. A large stock always on hand, in long lengths, up to 6½ diameter; can be rolled to 8 in. diameter.—Apply to ROBERTSON BROTHERS and Co., Iron Merchants, 44, St. Enoch-square, Glasgow.

TO IRONFOUNDERS.—J. IRELAND, FOUNDRY

ENGINEER, begs to CALL the ATTENTION of IRONFOUNDERS to his PATENT UPPER TUYERE CUPOLA FURNACE, which EFFECTS a SAVING of from THIRTY to FIFTY PER CENT. in cokes, and melts the metal in much less time, without any additional labour or expense. Full particulars and testimonials can be had upon application at his office, 21, Moreton-street, Strangeways, Manchester.

TO BOILER MAKERS, IRON SHIPBUILDERS, AND

ENGINEERS.—YORKSHIRE iron has long been admitted to be the best in the market, and experience has proved that MILTON BEST REFINED BOILER PLATES, without exception the BEST value TO BE PROCURED, COMBINING as they do GREAT DUCTILITY and FENSIBLE STRENGTH with MODERATION in COST, the price very little if at all exceeding that of Scotch boiler plates.—Apply to ROBERTSON BROTHERS and Co., 44, St. Enoch-square, Glasgow.

FOR SALE, THE BRYNGLAS SILVER-LEAD MINE,

situate near Ponterwydd, and about three miles from the Devil's Bridge, and twelve miles from the port of Aberystwyth, Cardiganshire.

The above mine has been worked by the present proprietors for nearly three years, and the machinery for pumping, crushing, and dressing the ore is of the very best description, and in perfect working order.

Upwards of £5000 has been expended in the erection of the machinery and the development of the mine. The shaft is sunk 26 fms. to the level in the bottom the lode is worth from 15 to 20 cwt. per fm. The lode in the 30 fm. level is also worth from 15 to 20 cwt. per fm. There is an abundant supply of water, and the royalty is moderate.—For further particulars, apply to the Secretary, at the office, Claremont Hill, Shrewsbury.

IMPORTANT TO MINERAL PROPRIETORS.—TO BE LET

OR SOLD, the whole MINERALS of SOUTH and OVER CUMBERHEAD, consisting of LEAD, COPPER, ZINC, IRON, &c., situated near LESMAHAGOW, in the Upper Ward of LANARKSHIRE. As these, with one or two exceptions in active operation, are the only mines of the kind in Scotland, as they were undoubtedly worked to advantage in remote times, and are known to have been little or at all disturbed for the last century and a half, possessing the great advantages of being in a populous county, in the same district as the celebrated lead hills, with good access by a mineral railway to their immediate neighbourhood, and as the progress of mining science in facilities and working economy have been enormously developed during this long period, they may be considered to present a most tempting field for the enterprise of mining capitalists.

In a report upon them in 1815, by Professor Jamieson, of Edinburgh, the most eminent geologist of his day, he concludes as follows:—"The magnitude of the veins, the quantity of ore which previous trials have shown them to contain, the excellence of the ore, the nature of the vein stones, the kind of strata traversed by the veins, are considerations which induce me to recommend them to, and deem them worthy of, the attention of a mining company."

Reports and further information may be had on application to Mr. HOEN BOGLE, 123, St. Vincent-street, Glasgow.

SOUTH WALES COLLIERY, MERTHYR DISTRICT.—TO

BE DISPOSED OF, BY PRIVATE CONTRACT, on very advantageous terms, a HIGHLY IMPORTANT COLLIERY, known as the TYLACOCK COLLIERY, situate in the RHONDDA VALLEY, on the Rhondda branch of the Taff Vale Railway, by which line the coals are conveyed to the Cardiff docks. The quality of the coal is quite equal to the Merthyr coal, and is preferred to it for the use of the locomotives on the line. The thickness of the seam is about 6 ft., and the area is 951 A. 2 R. 20 P.

There is one shaft sunk to the upper 4 ft. vein of coal, a depth of 154 yards from the surface, and the quality to be raised is estimated at 80,000 tons per annum. The galegas varies from 90 to 95 per cent. on the large and good.

There is a farm attached to this colliery, which is in an excellent state of cultivation, and upon which a large outlay has been made in improvements by draining and otherwise.

For further particulars, apply to Messrs. FULLER and HONNEY, 19, Billiter-street, London, E.C.; or to Mr. D. LEWELLYN, mining engineer, Glyn Neath, Glamorganshire.

NATIONAL PROVINCIAL BANK OF ENGLAND.

The Directors of the National Provincial Bank of England hereby give notice that the ANNUAL GENERAL MEETING of the proprietors of this society will be HELD on THURSDAY, the 9th day of May next, at the hour of Twelve precisely, at the company's house, 112, Bishopgate-street, in the City of London.

By order of the Court of Directors.

DAN. ROBERTSON, Agent and Manager.

112, Bishopgate-street, London, April 9, 1861.

THE SOUTH DEVON IRON AND GENERAL MINING

COMPANY (LIMITED)—PREFERENCE STOCK.—Notice is hereby given, that the remainder of the 5000 preference shares, bearing a preferential dividend of 10 per cent. per annum, are hereby offered to the existing shareholders, application for which should be made on or before Tuesday, the 16 day of April, when any that may remain unsubscribed will be allotted to other than existing shareholders.

ATLAS TIN MINES.—The tin lodes are producing fine work for tin; 8 heads of stamps, of 3 cwt. each, have been stamping tin ore during the past month. The burning-house will be ready to receive the tin now being stamped by the end of the ensuing month, when regular monthly sales may be expected.

ATLAS IRON MINE.—Final arrangements have been made respecting the Bovey lignite; the fire-bricks have arrived, and the furnaces for the purpose of converting the large deposits of iron ore into charcoal iron will be immediately proceeded with.

By order, GEORGE F. GOODMAN, Sec.
City Bank Chambers, Threadneedle-street, London, E.C., March 28, 1861.

A CADIAN CHARCOAL IRON COMPANY (LIMITED).—THE

FIFTH ANNUAL GENERAL MEETING of the shareholders in this company will be HELD, in accordance with the Deed of Settlement, on TUESDAY, the 16th of April inst., at the company's offices, 17, New Church-street, Sheffield, at Twelve o'clock.

By order of the Board of Directors, GEORGE WILKINSON, Sec.

17, New Church-street, Sheffield, April 8, 1861.

MARIQUITA AND NEW GRANADA MINING COMPANY.

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the above company will be HELD at the London Tavern, on Wednesday, the 17th day of April next, at Two o'clock in the afternoon, at which meeting a resolution to the following effect will be proposed for the approval of the shareholders:

That the directors be authorized, in conformity with the Deed of Settlement, to borrow a sum not exceeding £7500 in addition to the £12,700 already borrowed upon the debentures of the company, upon such terms as to interest and time of payment as may appear desirable, provided the rate of interest does not exceed 10 per cent. per annum.

No. 2, New Bank-buildings, E.C., March 28, 1861.

L. R. JONES, Sec.

In Chancery.

YORKSHIRE.—FREEHOLDS, COPYHOLDS, AND BEDS OF COAL, LAKE

LOCK, NEAR WAKEFIELD.

TO BE SOLD, pursuant to an Order of the High Court of Chancery made in certain Causes of HOLLAND v. HEMINGWAY, and HOYLAND v. HEMINGWAY, and by arrangement with the owners, with the approbation of the Vice-Chancellor Sir Richard T. Kindersley, the Judge to whose Court the said causes are attached, by Mr. Edward Lancaster, the person appointed by the said Judge, at the Stratford Arms Hotel, in Wakefield, in the county of York, on Monday, the 13th day of May, 1861, at Two o'clock in the afternoon, in six lots, VALUABLE FREEHOLD and COPYHOLD ESTATES, situate at or near LAKE LOCK and ALTOFTS, near WAKEFIELD, in the county of York, containing 40 acres or thereabouts, and now or late in the several occupations of Millington Crew, Robert Clegg, Henry Wilde, William Copley, John Craven, Mrs. Hawshaw, Thomas Bursley, Smith and Watson, Messrs. Charlesworth, William Craven, and Michael Calvert.

Also, the BEDS OF COAL and OTHER MINERALS under the old enclosed parts of the same, and other estates lately sold in the above Causes, all late the property in equal moieties of Shepley Watson, Esq., deceased, and Edward Hemingway, Esq., deceased.

Printed particulars and conditions of sale, and plans of the estate, may be had (gratis) in London of Messrs. PERKINS and SON, solicitors, 13, Great James-street, Bedford-row; and Messrs. F. W. Henrietta-street, Covent-garden; and in the county of York, of Mr. HOYLAND, solicitor, Brierley, near Barnsley; Messrs. NALSON, BULMER, and NELSON, solicitors, Leeds; Messrs. TEALS and APPELTON, solicitors, Leeds; Mr. JAMES BURNER, surveyor, York; Mr. LANCASTER, Barnsley, the auctioneer; and at the place of sale.

Dated the 27th day of March, 1861.

CHAS. PUGH, Chief Clerk.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the SWANPOOL MINING COMPANY

(LIMITED), and in the MATTER of the JOINT-STOCK COMPANIES ACTS, 1856, 1857.—TO BE SOLD, by direction of the Official Liquidator of the said company, with the sanction of the said Court, BY PUBLIC AUCTION, on Tuesday, the 23rd day of April inst., at Eleven o'clock in the forenoon, subject to such conditions as shall be then produced, and in such lots as shall be then determined on, the whole of the VALUABLE MINING MACHINERY, MATERIALS, and OTHER EFFECTS at and upon SWANPOOL MINE, and the works thereupon, situate in the parish of Budock, within the said Stannaries, particulars of which appear in handbills.

The mines are held under and by virtue of three certain indentures of lease, dated respectively the 24th day of June, 1851, the 24th day of June, 1851, and the 24th day of October, 1851. And the estate and interest of the lessees therein, under the said several indentures of lease, will on the same day be offered for sale.

The mines may be inspected at any time prior to the sale, on application to Mr. ROOKS, in charge thereof; and further particulars, with conditions of sale, may be had on application at the office of the Official Liquidator of the said company, in Truro; to Mr. TULLY, solicitor, Falmouth; to Messrs. HODGE, HODGE, and MANNAKE, solicitors, Truro; to Messrs. VALLANCE and VALLANCE, solicitors, 20, Essex-street, Strand, London; and to Mr. STOKES, solicitor, Truro.—Dated Truro, April 3, 1861.

THE SWANPOOL SMELTING WORKS.

VALUABLE AND EXTENSIVE SMELTING WORKS, NEAR

FALMOUTH, CORNWALL, FOR SALE.—A PUBLIC AUCTION WILL BE HELDEN at the Green Bank Hotel, Falmouth, on Saturday, the 20th day of April inst., at Twelve o'clock in the afternoon, in One Lot, with the concurrence of the Court of the Vice-Warden of the Stannaries, all that VALUABLE and EXTENSIVE PROPERTY, situate at Swanpool, in the parish of Budock, near Falmouth, known as the SWANPOOL SMELTING WORKS, together with the various MACHINERY, MATERIALS, and EFFECTS thereon, particulars of which appear in handbills.

The above works are of a very superior description, no expense having been spared in their erection to render them most efficient and complete; and having been constructed by the company within the last two years, they will be found in excellent repair and condition.

The above may be inspected at any time prior to the sale, on application to Mr. ROOKS, in charge thereof; and further particulars of the sale may be had on application at the office of the Official Liquidator of the Swanpool Mining Company (Limited), in Truro; to Messrs. VALLANCE and VALLANCE, solicitors, No. 20, Essex-street, Strand, London; or to Mr. STOKES, solicitor, Truro.—Dated Truro, April 3, 1861.

DEAN FOREST.—MOSELY GREEN, NEAR PARKEND.

MR. RICHARD WHITE WILL SELL, BY AUCTION, on Thursday, 25th April, 1861, at Two o'clock in the afternoon, in one or more lots, as shall be agreed upon at the time of sale, and subject to conditions to be then read, all the UNDIVIDED MOIETY, or other the PART SHARE and INTEREST of Mr. Edmund Morgan, of and in certain portions of the NEWMAN SHROPSHIRE or HORSE BRIDGE COLLIERY, consisting of TRACTS of COAL in the PARKEND HIGH DELF, SMITHY, LITTLE DELF, STARKEY, and ROCKEY VEINS of COAL.

These veins are worked dry by a double bond pit, about 60 yards deep, with 12 horse engine, capable of drawing 100 tons a day; and a single bond pit and 8 horse engine, all in good working condition.

The colliery adjoins the new central line of railway from Moseley Green to Brimsill, and is connected with the Severn and Wye tramway by a short branch.

The coal is principally of good hard block quality, and the veins from 16 in. to 2 ft. 6 in. in thickness.

The premises are under two leases for 21 years, from 1st June, 1855, and 25th March, 1859, and a lease for 10 years from 17th October, 1856, at a reserved rent of 8d. per ton, or a certain minimum rent of £300 per annum, of which a moiety is reserved to Mr. Morgan.

For particulars and to inspect, apply to the proprietor, Mr. EDMUND MORGAN, Moseley Green; or Messrs. ROBERTS and HULLITT, solicitors; or the Auctioneer, Coloford.

THE TORBANE HILL MINERAL.—FOR SALE, A LARGE

QUANTITY OF THIS CELEBRATED MINERAL.—There will be SOLD, BY PUBLIC AUCTION, within the sale rooms of Messrs. P. Burn and Co., 9, Exchange-place, Glasgow, at Twelve o'clock in the afternoon, on the 17th April, 1861, a LARGE QUANTITY of the MINERAL in question, in lots to suit purchasers. The quality will be equal to the best in the market, being identical with the best Boghead as sold by Messrs. James Russell and Son. Samples will be sent, and particulars learned, on application at Messrs. P. Burn and Co.'s; or to Mr. GILLESPIE, Torbane Hill House.

BEDFORD IRONWORKS, TAVISTOCK.

NICHOLLS, WILLIAMS, AND CO. have generally a GOOD STOCK OF SECOND-HAND MINING MATERIALS FOR SALE, including ironwork for a water-wheel, 40 ft. diameter, 2½ ft. breast. They also MANUFACTURE STEAM ENGINES of every description on the newest principle. Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts of the world. Steam boilers and chains warranted of the best description.

WHEATLEY KIRK AND CO., GENERAL ENGINEERS, MACHINISTS, TOOL MAKERS, &c., of MANCHESTER, continue to supply any class of machinery for home and exportation, with the utmost facility. Their catalogue is sent by post (free) on application.

WHEATLEY KIRK AND CO. CALL ESPECIAL ATTENTION to their STOCKS, TAPS, and DIES. WHITEWORTH STANDARDS of various sizes in cases.—Manchester, March, 1861.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OZZELL STREET NORTH, BIRMINGHAM. STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—
REFINED METALLIC NICKEL. OXIDE OF COBALT. [WIRE] &c.
REFINED METALLIC BISMUTH. GERMAN SILVER—IN INGOTS, SHEET NICKEL AND COBALT ORES PURCHASED.

HALL AND WELLS, PATENTEES AND MANUFACTURERS OF SUBMARINE TELEGRAPH CABLES, CABLES, &c.—TELEGRAPH CONDUCTORS INSULATED WITH INDIA RUBBER at £5 per mile and upwards. CABLES WARRANTED TO STAND THE USUAL TEST FOR 100 YEARS. Further particulars as to price of cables, &c., can be had on application at 80, Aldermanbury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E.
Copper wire covered with silk, cotton, or any other material, to order.

EBONITE!—TELEGRAPH INSULATORS made of EBONITE. EBONITE IN SHEET, TUBES, and RODS, or manufactured into various articles of utility and ornament, being calculated to supersede metal, hard woods, and ivory at present in use.
INDIA RUBBER—INDIA RUBBER STEAM PACKING in ROPE, SHEET, RINGS, &c., intended for railway and machinery appliances, unvulcanised and vulcanised. S. W. SILVER AND CO., 3 and 4, BISHOPSGATE WITHIN, E.C. (Opposite the London Tavern).
WORKS—SILVERTOWN, ESSEX, opposite Her Majesty's Dockyards, Woolwich.

ASSAY OFFICE AND LABORATORIES DUNNING'S ALLEY, BISHOPSGATE STREET WITHOUT, LONDON. Conducted by MITCHELL and RICKARD (late John Mitchell, F.C.S., Author of *Manual of Practical Assaying*, Metallurgical Papers, &c.) Assays and Analyses of every description performed as usual. Special Instruction in Assaying and Analysis. Consultations in every branch of Metallurgical and Manufacturing Chemistry. Assistance rendered to intending Patentees, &c. For amount of fees, apply to the office, as above.

BASTIER'S PATENT CHAIN PUMP. APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, &c. J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, armers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unlike lighter pumps with a double duty almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by use:—
1.—It utilises from 90 to 99 per cent. of the motive power.
2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.
3.—It occupies a very small space.
4.—It raises water from any depth with the same facility and economy.
5.—It raises with the water, and without the slightest injury to the apparatus sand, mud, wood, stone, and every object of a smaller diameter than its tube.
6.—It is easily removed, and requires no cleaning or attention.
To be seen daily at W. P. Warner's, wine and spirit merchant, Welsh Harp, Edgware-road, near Cricklewood. References of the highest character will be given.
J. U. BASTIER, sole manufacturer, will CONTRACT TO ERECT his PATENT PUMP at HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors and others, for the USE of his INVENTION.
OFFICES, 19, MANCHESTER BUILDINGS, WESTMINSTER, LONDON. London, Oct. 10, 1859. Hours, from Ten till Four. J. U. BASTIER, C.E.

AUSTRALIA AND NEW ZEALAND WHITE STAR EX-ROYAL MAIL CLIPPERS, SAILING FROM LIVERPOOL TO MELBOURNE on the 1st and 20th of every month. FOR MELBOURNE.
Ship. Captain. Register. Burthen. To sail.
SHALIMAR ALLEN 1700 5000 April 25.
EMPEROR OF THE SEAS BRAGG 1600 4750 May 20.
BLUE JACKET WHITE 1550 4750 June 20.
Owing to the tide, the April packet will sail on the 25th.
The clippers of this line are the largest, finest, and handsomest in the trade, and are well known for their famous passages, and the unsurpassed punctuality of their sailing engagements. Passengers must embark, without fail, on the day previous to advertised date.—For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or to GRINDLEY and CO., 55, Parliament-street; or SEYMOUR, PEACOCK, and CO., 116, Fenchurch-street, London.
Willcox's Australian and New Zealand hand-books sent for two stamps.

SAMUEL GRIFFITHS' STAFFORDSHIRE IRON TRADE CIRCULAR. Published every Saturday afternoon. Circulation, 7000 per week. Price £1 ls. per annum, in advance, post free, being registered for transmission abroad at same price.
The IRON CIRCULAR gives the state of the Market with respect to Pig and Malleable Iron; the Official Prices of Bars, Hoops, Sheets, and most other kinds of Staffordshire Iron; a Report of the Iron Trade throughout England, Scotland, and Wales; the Scotch Pig Market up to the close of the market on the day of publication; the Closing Price of the Funds and the principal Railway Stocks up to two o'clock the same day; a Monthly Report of the Iron Trade in France; a Weekly Report of the Money Market, London Discount Market, state of the Foreign Exchanges; the Weekly Return of the Bank of England; the Monthly Return of the Bank of France; a correct Weekly Account of all the Gold Ships at Sea, London bound; likewise an accurate Weekly Return of all the Gold and Specie received during the week; a Report of the Copper Market, with prices of all kinds; a Report of the Tin Market, with present prices, and the same of Lead and Spelter, every week. The IRON CIRCULAR likewise contains an account of all Failures, Disruptions of Partnerships, Changes of Firms, Stoppage of Works, Works Recommencing, New Works, or those in course of erection; in a word, the CIRCULAR gives every information connected with the Iron Trade which Mr. GRIFFITHS, whose well-known connection with it, considers would be useful and acceptable to the Ironmaster, the Merchant, the Shipper, Banker, or any other Buyer of Iron. The same may be said with regard to Copper, Tin, Spelter, and Lead. A Tabular Statement will be published with the CIRCULAR every three months, showing the number of Furnaces in and out of blast in all the Iron Districts, the quantity of Iron made, and likewise the quantities of Coal and Ironstone consumed in its production.
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WIRE-ROPE TESTING. PUBLIC TEST OF A. J. HUTCHINGS AND CO.'S PATENT WIRE-ROPE at LIVERPOOL, FEBRUARY 27, 1861. [From the *Daily Post* of March 1, 1861.]

On Wednesday, the 27th of February, a series of EXPERIMENTS on WIRE-ROPE took place at the Corporation Testing Works, King's Dock. The specimens tested were manufactured by the well-known firm of A. J. HUTCHINGS and Co., of Millwall, London, the Contractors to the Lords of the Admiralty and various foreign Governments, the character of whose rope is so well known, as well as all parts of the Continent. Capt. Ducraft, of H.M.S. *Hastings*, and a number of other gentlemen connected with shipping, were present to witness the experiments, all of which were considered highly satisfactory, and in every respect sustained the reputation of the manufacturers. The following are the results of the experiments:—
An 8 in. rope bore 70 tons WITHOUT BREAKING.
Circumference and breaking strain.

2½ tons | 2½ | 3½ | 3½ | 4 | 4½
10½ tons | 14 tons | 20 tons | 27 tons | 29 tons | 32½ tons | 45½ tons
N.B.—The 2½, 3, and 4 in. ropes were the sizes actually tested. The remaining sizes and strains are comparative.

THE ABOVE ROPES ARE FOR COLLIERY USE.

Size.	Hutchings and Co.'s wire-rope for ships' rigging. Tested Feb. 27, 1861.	Newall and Co.'s Test of Oct. 29, 1860.	Garnock, Bibby, and Co.'s Test, Oct. 29, 1860.
2	5 tons 15 cwt.	7 tons 15 cwt.	8 tons 16 cwt.
2½	11 " 14 "	13 " 15 "	15 " 16 "
3	16 " 18 "	18 " 18 "	18 " 18 "
3½	22 " 10 "	16 " 10 "	18 " 5 "
4	29 " 10 "	18 " 15 "	26 " 10 "
4½	37 " 15 "		

N.B.—The 2, 3, and 4 in. ropes were the actual sizes tested. The remaining sizes and strains are comparative.
The above tests certified by Mr. McDonald, the Superintendent of the Corporation Testing Works, Liverpool.

PUBLIC TEST OF WIRE ROPE at the CORPORATION TESTING WORKS, LIVERPOOL, 29th OCTOBER, 1860. Instituted by Messrs. R. S. NEWALL and Co. [From the *Mining Journal* of November 10th, 1860.]

Garnock, Bibby, and Co.	Newall and Co.	Hutchings and Co.	"	"	"	"
4½ in. broke at 26 tons 16 cwt.	3½ " " 18 " 5 "	3½ " " 18 " 15 "	3½ " " 16 " 10 "	3½ " " 17 " 15 "	3½ " " 15 " 0 "	3½ " " 15 " 10 "
" " " 18 " 15 "	" " " 16 " 10 "	" " " 17 " 15 "	" " " 15 " 0 "	" " " 15 " 10 "	" " " 5 " 0 "	" " " 5 " 0 "

Certified by Mr. William McDonald, Superintendent.
GARNOCK, BIBBY, AND CO., HEMP AND WIRE-ROPE MANUFACTURERS, LIVERPOOL.

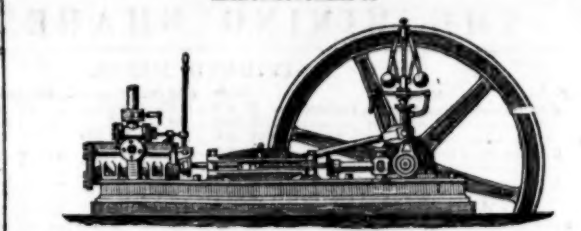
HEMP AND WIRE-ROPE. JOHN STEPHENS AND SON, HEMP AND WIRE-ROPE WORKS, ASHFIELD, PALMOUTH, CORNWALL. MANUFACTURERS OF FLAT AND ROUND HEMP AND WIRE-ROPE, GUIDE RODS for SHAFTS, GALVANISED WIRE SIGNAL LINE and STRAND FENCING, &c., for MINES, RAILWAYS, &c. A first class medal was awarded to JOHN STEPHENS and SON for their manufacture, by the Royal Cornwall Polytechnic Society, in 1860.

FRANCIS MORTON AND CO., LIVERPOOL. INVITE ATTENTION TO THE REDUCED PRICES of their best prepared, close laid, GALVANISED CABLE SIGNAL CORDS, for COLLIERIES, MINES, RAILWAYS, &c. Prices, delivered direct from their manufactory, Liverpool:—
No. 0, for deep pits, 18s. 6d. per 100 yards. No. 0, for deep pits, 18s. 6d. per 100 yards. No. 1, for shallow pits, 18s. 6d. per 100 yards. GALVANISED SIDE FULLEYS, with brass wheels, for No. 0 signal cord, 6s. 3d. a dozen. No. 0 and 1 signal cord, 6s. 6d. a dozen. SIGNAL BELLS, extra strong, 30s. each. Ditto small size, 20s. IMPROVED DRY HAIR FELTS, for boilers, &c., in long lengths, 9d. to 1s. 7d. a yard. ASPHALTED ROOFING FELT, 1d. a square foot.
FRANCIS MORTON AND CO., MANUFACTORY AND HEAD OFFICES, LIVERPOOL. LONDON OFFICE.—19, PARLIAMENT STREET, WESTMINSTER.

PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL WAS AWARDED TO THE MANUFACTURERS OF THE ORIGINAL SAFETY FUSE, BICKFORD, SMITH DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate. Address.—HECKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

DAVEY'S PATENT BLASTING POWDER, MANUFACTURED BY DAVEY, BROTHERS, AND CO., NANKESMERE POWDER WORKS, TUCKINGMILL, CORNWALL. This blasting powder possesses the following advantages over every other in use:—
ITS COMBUSTION IS SLOWER AND MORE PERFECT when confined in the hole, PRODUCES LESS SMOKE, IS LESS DANGEROUS, and it generally BURSTS MORE ROCK with a CHARGE OCCUPYING THE SAME SPACE, but WEIGHING FROM TWENTY TO THIRTY PER CENT. LESS than other powder, EFFECTING AN IMPORTANT SAVING.
DAVEY, BROTHERS, and Co. beg to state that this powder is specially made for blasting, and from its slow combustion is not adapted for projection. They would, therefore, caution consumers against the efforts of interested parties to put it to a fallacious trial, by firing a ball from a mortar, which is no test of its explosive force when confined.

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ONE 8 in. cylinder, 18 in. stroke.
ONE 10 in. cylinder, 18 in. stroke.
ONE 14 in. cylinder, 24 in. stroke.
ONE 12 in. cylinder, 36 in. stroke.
ONE 14 in. cylinder, 36 in. stroke.
ONE 17 in. cylinder, 36 in. stroke.
ONE 20 in. cylinder, 36 in. stroke.
Prices and full particulars sent on application.

CLAYTON, SHUTTLEWORTH, AND CO., AGRICULTURAL AND GENERAL ENGINEERS, LINCOLN, and 78, LOMBARD STREET, LONDON.

MANUFACTURERS OF PORTABLE and FIXED STEAM ENGINES, Which are adapted for every purpose to which steam-power can be applied. When intended for winding they are fitted with reversing link motion and requisite gearing. The portable engines are easy of removal from place to place, and may be set to work immediately on arrival.

COMBINED THRASHING MACHINES, Which dress the corn ready for market at one operation.

GRINDING and MOIST MILL, SAWING MACHINERY, PUMPS for IRRIGATION and MINING PURPOSES.

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TRACTION ENGINE, LONGSTAFF AND PULLAN'S PATENT.

TO BRASSFOUNDERS, ENGINEERS, REFINERS, &c.—THE PATENT PLUMBAGO CRUCIBLE COMPANY beg to CALL the ATTENTION of all users and shippers of melting pots to the GREAT SUPERIORITY OF THE PATENT CRUCIBLES, which have been used during the last three years by some of the largest melters in England and abroad. In addition to their capabilities of melting an average of from 35 to 40 pourings, they are unaffected by change of temperature, never crack, but can be used till worn out, requiring only one annealing for several days' work, and become heated much more rapidly than ordinary pots, EFFECTING thereby a SAVING of more than FIFTY PER CENT. in time, labour, fuel, and waste. The Patent Plumbago Crucible Company also manufacture and import clay crucibles, muffles, portable furnaces, sublimate pans and covers, glass pots, all descriptions of fire-standing goods, and every requisite for the assayer and dentist.

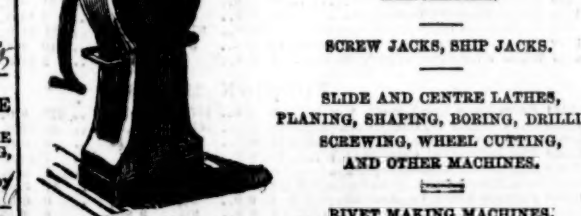
Also, sole proprietors of the POWDERED PURE FLOUR PLUMBAGO, which they can confidently recommend for anti-friction purposes, being an impalpable powder, and warranted perfectly free from grit and any impurity. For ordinary polishing purposes it will be found superior to any of the black lads offered. Price, £27 10s. per ton; 30s. per cwt. Samples of 28 lbs. forwarded on receipt of 8s. Packages free.
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RIVET MAKING MACHINES.



AYTOUN'S PATENT SAFETY CAGE FOR MINES.—An illustrated description of this cage appeared in the *Mining Journal* of the 6th April. The patentee would impress on the working miners that it depends upon themselves alone whether they are to have the security of safety cages or not. Employers are naturally unwilling to incur this responsibility, but will gladly accede to the expressed wishes of their workmen in a matter so materially affecting their safety. Let the latter, therefore, with the concurrence of their employers, call upon the different patentees to exhibit their safety cages before them, make choice of the one they have confidence in, and thus do away with a fruitful source of danger to the miner.

N.B.—If requested to do so, the patentee will send a safety cage, with its guide-rods and frame complete, to any mining district, at his own expense, for the purpose of its being tried and tested. He has no doubt that the other patentees will do the same. Apply to the patentee, ROBERT AYTOUN, 3, Fettes-row, Edinburgh.

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DIVIDEND MINES.									
Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.	Shares.	Mines.	Paid.
4000	Bedford United (copper), Tavistock	2 6 8.	5 1/2.	5 1/2.	5 1/2.	5 1/2.	4000	North Wheal Crofty (S.E.)	8 19 8.
2400	Boscon (tin), St. Just	20 10 0.	50				4000	N. Wh. Exmouth (copper), lead	2 2 6.
300	Botalack (tin), copper, St. Just	91 5 0.	210	180 190			2000	North Wheal Crofty (S.E.)	8 19 8.
3000	Bransford (lead), Cardiganshire [L.]	12 10 0.	7 1/2.				4000	N. Wh. Exmouth (copper), lead	2 2 6.
200	Brynford Hall (lead), Flintshire	15 0 0.	92 1/2.	85 50			2000	North Wheal Crofty (S.E.)	8 19 8.
1000	Carn Brea (copper, tin), Illogan	1 0 0.	25				4000	N. Wh. Exmouth (copper), lead	2 2 6.
2048	Carnyorth (tin), St. Just	3 10 0.	2 1/2.				2000	North Wheal Crofty (S.E.)	8 19 8.
900	Cefn Cwyrwyon (lead), Cardiganshire	33 0 0.	20	81			4000	N. Wh. Exmouth (copper), lead	2 2 6.
20000	Connewe (copper, sulphur) [L.]	1 0 0.	51 1/2.	43 1/2.			2000	North Wheal Crofty (S.E.)	8 19 8.
12000	Copper Mines of England	0 0 0.	25				4000	N. Wh. Exmouth (copper), lead	2 2 6.
350000	ditto (stock)	100 0 0.	24				2000	North Wheal Crofty (S.E.)	8 19 8.
1055	Cradock Moor (copper), St. Cleer	8 0 0.	27				4000	N. Wh. Exmouth (copper), lead	2 2 6.
867	Cwm Erwin (lead), Cardiganshire	7 10 0.	12	16 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
128	Cwmystwith (lead), Cardiganshire	60 0 0.	180				4000	N. Wh. Exmouth (copper), lead	2 2 6.
280	Derwent Mines (sil.-lead), St. Just	1 0 0.	350	340 350			2000	North Wheal Crofty (S.E.)	8 19 8.
1024	Devon Gt. Con. (cop.), Illogan [S.E.]	1 0 0.	350				4000	N. Wh. Exmouth (copper), lead	2 2 6.
850	Dulacott (copper, tin), Camborne	128 16 0.	490				2000	North Wheal Crofty (S.E.)	8 19 8.
512	East Basset (cop.), Redruth [S.E.]	29 10 0.	105	100 105			4000	N. Wh. Exmouth (copper), lead	2 2 6.
6144	East Caradon (copper), St. Cleer [S.E.]	2 14 6.	19 1/2.	19 10 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
300	East Darren (lead), Cardiganshire	62 0 0.	67				4000	N. Wh. Exmouth (copper), lead	2 2 6.
2048	East Wheal Lovell (tin), Wendron	2 10 0.					2000	North Wheal Crofty (S.E.)	8 19 8.
1400	Eam Mining Co. (lead), Derbyshire	5 0 0.	38				4000	N. Wh. Exmouth (copper), lead	2 2 6.
4940	Fowey Consols (copper), Tywardreath	4 0 0.	5				2000	North Wheal Crofty (S.E.)	8 19 8.
2560	Foxdale, Isle of Man, Limited (lead)	25 0 0.	35				4000	N. Wh. Exmouth (copper), lead	2 2 6.
2000	Frank Mills (lead), Devon	3 10 0.	4 1/2.				2000	North Wheal Crofty (S.E.)	8 19 8.
456	Gambler and St. Aubyn (S.E.)	46 10 0.	18 20				4000	N. Wh. Exmouth (copper), lead	2 2 6.
6000	Great South Tolgus [S.E.], Redruth	0 14 6.	63 1/2				2000	North Wheal Crofty (S.E.)	8 19 8.
1708	Great Wheal Fortune, Breage	18 0 0.	9 1/2.	8 1/2 9 1/2			4000	N. Wh. Exmouth (copper), lead	2 2 6.
5908	Great Wh. Vor (tin, cop.), Helston [S.E.]	40 0 0.	7				2000	North Wheal Crofty (S.E.)	8 19 8.
1024	Herodford (id.), near Liskeard [S.E.]	8 10 0.	39	26 28			4000	N. Wh. Exmouth (copper), lead	2 2 6.
200	Herward United (lead), Flintshire	37 0 0.	31				2000	North Wheal Crofty (S.E.)	8 19 8.
1000	Hibernian Mine Company	92 6 2.					4000	N. Wh. Exmouth (copper), lead	2 2 6.
160	Levant (copper, tin), St. Just	2 10 0.	95				2000	North Wheal Crofty (S.E.)	8 19 8.
400	Liaburne (lead), Cardiganshire, Wales	18 15 0.	125				4000	N. Wh. Exmouth (copper), lead	2 2 6.
9000	Marke Valley (copper), Cardigan	3 15 0.	1 1/2.	7 1/2 7 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
6000	Mendip Hills (lead), Somerset	25 0 0.	180				4000	N. Wh. Exmouth (copper), lead	2 2 6.
1600	Minera Mining Co. (L.), Wrexham	25 0 0.	180				2000	North Wheal Crofty (S.E.)	8 19 8.
3000	Mines Co. of Ireland (cop., lead, coal)	7 0 0.	14 1/2.				4000	N. Wh. Exmouth (copper), lead	2 2 6.
640	Mount Pleasant, Mold	4 0 0.	25				2000	North Wheal Crofty (S.E.)	8 19 8.
1266	North Gribler, Redruth	2 7 6.	7				4000	N. Wh. Exmouth (copper), lead	2 2 6.
6000	North Great Wheel, Breage	1 3 0.	4 1/2.				2000	North Wheal Crofty (S.E.)	8 19 8.
5000	Oradell (lead), Flintshire	0 0 8.	1 1/2.				4000	N. Wh. Exmouth (copper), lead	2 2 6.
6400	Par Consols (cop.), St. Blazey [S.E.]	1 2 6.	10	8 1/2 9 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
200	Parys Mines (copper), Anglesey [L.]	50 0 0.					4000	N. Wh. Exmouth (copper), lead	2 2 6.
200	Phenix (cop., tin), Llanfihangel	100 0 0.	435				2000	North Wheal Crofty (S.E.)	8 19 8.
1772	Pierro (tin), St. Agnes	10 0 0.	40				4000	N. Wh. Exmouth (copper), lead	2 2 6.
1130	Providence (tin), Uny Lelant [S.E.]	10 0 0.	40				2000	North Wheal Crofty (S.E.)	8 19 8.
16	Rhoscefn (lead), Cardiganshire	50 0 0.	22	23 24			4000	N. Wh. Exmouth (copper), lead	2 2 6.
612	Rosewater United (cop., tin), Gwynedd	15 0 0.	22	23 24			2000	North Wheal Crofty (S.E.)	8 19 8.
612	South Caradon (cop.), St. Cleer [S.E.]	1 5 0.	810	300 305			4000	N. Wh. Exmouth (copper), lead	2 2 6.
612	South Tolgus (cop.), Redruth, Cornwall	8 0 0.	45	39 41			2000	North Wheal Crofty (S.E.)	8 19 8.
496	South Wheal Frances, Illogan [S.E.]	18 18 0.	160	145 160			4000	N. Wh. Exmouth (copper), lead	2 2 6.
280	Spearhead Moor (tin, copper), St. Just	31 17 0.	30	42 1/2 47 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
940	St. Ives Consols (tin), St. Ives	8 0 0.	87 1/2.	32 1/2 35			4000	N. Wh. Exmouth (copper), lead	2 2 6.
9600	Tamar Con. (sil.-id.), Beeralston [S.E.]	4 10 0.	2 1/2.	1 1/2 2			2000	North Wheal Crofty (S.E.)	8 19 8.
6000	Tincroft (cop., tin), Pool, Illogan [S.E.]	9 0 0.	25 1/2.	6 1/2 5 1/2			4000	N. Wh. Exmouth (copper), lead	2 2 6.
6000	Tolvadden (copper), Gwynedd	11 10 0.	100	9 11			2000	North Wheal Crofty (S.E.)	8 19 8.
572	Trevelyan (copper), St. Ives	11 10 0.	100	9 11			4000	N. Wh. Exmouth (copper), lead	2 2 6.
1024	Wendron Consols (tin), Wendron	11 13 0.	18	16 17			2000	North Wheal Crofty (S.E.)	8 19 8.
6000	West Basset (copper), Illogan [S.E.]	1 10 0.	18				4000	N. Wh. Exmouth (copper), lead	2 2 6.
60	West Burton Gill (lead), Yorkshire	50 0 0.					2000	North Wheal Crofty (S.E.)	8 19 8.
1024	West Caradon (cop.), Liskeard [S.E.]	8 0 0.	76	74 76			4000	N. Wh. Exmouth (copper), lead	2 2 6.
256	West Damsel (copper), Gwynedd	37 0 0.	62				2000	North Wheal Crofty (S.E.)	8 19 8.
6100	West Fowey Consols (tin and copper)	7 10 0.	5				4000	N. Wh. Exmouth (copper), lead	2 2 6.
100	W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0.	355	350			2000	North Wheal Crofty (S.E.)	8 19 8.
212	Wheal Basset (copper), Illogan [S.E.]	2 2 6.	100	95 100			4000	N. Wh. Exmouth (copper), lead	2 2 6.
256	Wheal Basset (cop.), Redruth [S.E.]	8 0 0.	120	110 115			2000	North Wheal Crofty (S.E.)	8 19 8.
5000	Wheal Clifford (cop.), Gwynedd [S.E.]	8 0 0.	185	180 190			4000	N. Wh. Exmouth (copper), lead	2 2 6.
2000	Wheal Falmouth and Sperris	2 5 0.	8				2000	North Wheal Crofty (S.E.)	8 19 8.
128	Wheal Friendship (copper), Devon	50 0 0.	90				4000	N. Wh. Exmouth (copper), lead	2 2 6.
612	Wheal Jane (silver-lead), Kea	3 10 0.	18				2000	North Wheal Crofty (S.E.)	8 19 8.
5000	Wheal Kitty (tin), St. Agnes	4 0 0.	1 1/2.	1			4000	N. Wh. Exmouth (copper), lead	2 2 6.
1024	Wheal Kitty (tin), Uny Lelant [S.E.]	1 7 2.	13	11 1/2 12 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
4204	Wheal Ludcott (lead), St. Ives	2 10 8.	3 1/2.	3 3/2 3 3/2			4000	N. Wh. Exmouth (copper), lead	2 2 6.
496	Wh. Margaret (tin), Uny Lelant [S.E.]	9 17 6.	48	45 47			2000	North Wheal Crofty (S.E.)	8 19 8.
100	Wheal Mary (tin), Lelant	36 2 6.	440				4000	N. Wh. Exmouth (copper), lead	2 2 6.
1024	Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0.	15	14 14			2000	North Wheal Crofty (S.E.)	8 19 8.
50	Wheal Owles, St. Just, Cornwall	70 0 0.	305				4000	N. Wh. Exmouth (copper), lead	2 2 6.
1040	Wh. Trevelyan (sil.-id.), Liskeard [S.E.]	4 7 0.	13	14 1/2			2000	North Wheal Crofty (S.E.)	8 19 8.
5000	Wicklow (copper) [L.], Wicklow	5 0 0.	70 1/2.	70			4000	N. Wh. Exmouth (copper), lead	2 2 6.

[* Dividends paid every two months. † Dividends paid every three months.]

MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
700	Aberdovey (silver-lead), Merioneth	1 10 0.	30			
5120	Alfred Consols (cop.), Phillack [S.E.]	2 17 1/2.	3 1/2.	2 1/2 2 1/2		
1264	Baldewin (tin), St. Just	11 5 0.	15			
1000	Brighton and Devon (copper), Devon	0 0 0.	3 1/2.			
6000	Central Miners (lead) [L.]	0 15 0.	5 1/2.			
6000	Charlotte United, Penryn	1 16 2.	2 1/2.	1 1/2		
2000	Collacomb (copper), Lamerion	5 0 0.	12			
256	Condurow (cop., tin), Camborne	20 0 0.	85			
256	Copper Hill (copper), Redruth	48 0 0.	87 1/2.			
4076	Devon and Cornwall (copper)	4 18 8.	6			
672	Ding Dong (tin), Gwulva	37 14 0.	13	11 13		
12800	Drake Wells (tin, copper), Calstock	2 10 1.	1	3 1/2		
2048	East Falmouth (sil.-id.), Kenwyn, Kea	7 6 2.	2 1/2.			
128	East Fowey (tin, copper), Pool, Illogan	8 0 0.	400			
1024	East Wheal Margaret (tin), Redruth	17 0 0.	15			
6000	General Mining Co. for Ireland (cop., id.)	4 0 0.	5 1/2.			
119	Great Work (tin), Gernoe	100 0 0.	110			
6000	Hillingdon Down Con. (cop.), Cals. [S.E.]	4 15 6.	2 1/2.	2 1/2 2 1/2		
5000	Kelly Bray (lead, copper), Callington	4 1 6.	1 1/2.	1 1/2 1 1/2		
30	Lewis Mining Company, Isle of Man	100 0 0.	1200			
5000	Luxy Mines (tin, copper), St. Erth	6 9 11.	85	65 75		
470	Newtownards Mining Co., Co. Down	50 0 0.	55			
5000	North Dolcoath (copper), Camborne	2 2 6.	1 1/2.			
700	North Roseker (copper), Camborne	16 0 0.	21	18 20		
1024	Rosewater United (cop., tin), Gwynedd	10 10 0.	3 1/2.			
13900	Sordridge Con. (cop.), Whitchurch [S.E.]	0 14 1/2.	13 1/2.	85 105		
128	South Crinon (copper), St. Austell	19 0 0.	285			
30000	St. Day United (tin and cop.), Redruth	3 5 0.	5 1/2.			
400	United Mines (copper), Gwynedd	50 0 0.	40			
20000	Valley of Towy (lead), Carmarthen [S.E.]	0 13 6.	95	65 85		
1024	West Providence (tin), St. Erth	14 15 0.	2 1/2.			
340	Wheal Bal (tin), St. Just	15 0 0.	16			
4096	Wheal Edward (cop.), Calstock [S.E.]	7 6 2.	2 1/2.	2 1/2 2 1/2		
1024	Wheal Grylls (tin), Ferrantun	1 4 0.	3 1/2.	3 1/2 4		
480	Wheal Loe (tin), Wendron	38 0 0.	15			
1024	Wheal Margaret (tin, copper), Camborne	58 10 0.	87 1/2.	75 80		
356	Wheal Seton (tin, copper), Camborne	58 10 0.	87 1/2.	75 80		
1024	Wheal Trevelyan (tin, cop.), Gwynedd	12 2 6.	5			
4096	Wheal Wrey Consols (lead), St. Ives	3 1 6.				

FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
2464	Burra Burra (cop.), South Australia	5 0 0.	137			
12000	Cobre Copra (cop.), Cuba [S.E.]	40 0 0.	11	39 41		
10000	Copiapino Mining Company, Chile [S.E.]	16 0 0.	10	8 10		
15000	East Indian Coal, Calcutta [L.]	10 0 0.	10			
70000	English and Australian [S.E.]	5 0 0.	3 1/2.			
20000	Gen. Mining Assoc., Nova Scotia [S.E.]	20 0 0.	24	23 24		
60000	Kapunda Mining Co., Australia [S.E.]	1 0 0.	2 1/2.	2 1/2		
16000	Linaros (id.), Poso Ancho, Spain [S.E.]	3 0 0.	9 1/2.			
10000	Lusitania (of Portugal) [S.E.]	3 0 0.	2 1/2.	2 1/2		
168818	Marquitta and New Granada [S.E.]	1 0 0.	3 1/2.			
100000	Port Phillip (gold), Clons [S.E.]	1 0 0.	3 1/2.			
11000	St. John del Rey [L.], Brazil [S.E.]	15 0 0.	31 1/2.	31 32		
20000	West Canada Mining Company [L.]	1 0 0.	1 1/2.			

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
10000	Altan and Quenangan (cop.) [L.]	4 10 0.	3			
10000	St. Bader Land, Min. Co. N. Ze. [L.]	3 10 0.	3 1/2.			
10000	Pontgibaud (sil.-lead), France [S.E.]	30 0 0.	6			
43174	Unit. Mexican (sil.), Mexico [S.E.]	28 5 0.	6 1/2.	6 1/2 5 1/2		

NON-DIVIDEND FOREIGN MINES.